RESEARCH MEMORANDUM

NAVY ENLISTED CLASSIFICATION REQUIREMENTS AND INVENTORIES

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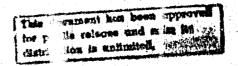
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This research memorandum presents information on Navy Enlisted Classification (NEC) inventories and assignments between 1979 and 1987, and on NEC requirements between 1984 and 1987. It also examines three ratios: the ratio of matched assignments to inventory, the ratio of inventory to requirements, and the ratio of assignments to requirements. The first ratio measures the rate of NEC utilization; the second measures the fraction of requirements that could be filled; and the third measures the fraction of requirements that are being filled.

At the aggregate level, the paper discusses values of these variables and ratios in each year and changes in them over time. At the NEC level, it presents distributions of NECs across values of the variables and shifts in the distributions over time.

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1.   This research memorandum presents information on Navy Enlisted Classification (NEC) inventories and assignments during the period 1979 to 1987, and on NEC requirements between 1984 and 1987. Three ratios are also examined: the ratio of matched assignments to inventory, the ratio of inventory to requirements, and the ratio of assignments to requirements. The first ratio measures the rate of NEC utilization; the second measures the fraction of requirements that could be filled; and the third measures the fraction of requirements that is being filled. At the aggregate level, the research memorandum discusses values of these variables and ratios in each year and the changes in them over time. At the NEC level, it presents distributions of NECs across values of the variables, and examines shifts in the distributions over time.

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NAVY ENLISTED CLASSIFICATION REQUIREMENTS AND INVENTORIES

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INTRODUCTION

Navy Enlisted Classification codes, or NECs, are codes given to Navy enlisted personnel to identify knowledge and skills that are more specialized than those required by ratings (occupations). Currently, most NECs are earned via formal training, or C-school; some NECs can be earned on the job.

A number of studies have investigated the reasons for and consequences of the increase in C-school training during the 1980s [1, 2]. One of the outcomes of the increased training was an increase in the inventory of NEC holders. A previous paper [3] described the changes in the NEC inventory between 1979 and 1987, and the accompanying changes in NEC utilization, at the aggregate level.

This research memorandum extends the earlier one in two ways. First, it presents information on NEC inventories and utilization at the NEC level. Second, it adds information on NEC requirements to the analysis. Specifically, it discusses changes in the ratio of inventory to requirements, and in the ratio of assignments to requirements, at both the aggregate and the NEC levels. This discussion allows us to determine whether the increase in C-school training has resulted in a greater ability to fill NEC requirements or in a greater fraction of NEC requirements being filled.

THE DATA

Two data sources are used in this paper: the Enlisted Master Record (EMR) file and the Enlisted Billet File (EBF). The EMR contains information on enlisted personnel, including NECs held by the individual (up to five) and NECs to which the person is assigned in his current job (up to two). The latter are called Distribution NECs, or DNECs. The EMR is received quarterly at CNA, in March, June, September, and December. This paper examines EMR data from 1979 through 1987.

The Enlisted Billet File contains information on NEC requirements.[1] Each billet can specify up to two NECs, a Primary NEC (PNEC) and a Secondary NEC (SNEC). The EBF is not sent to CNA on a regular basis, and no usable requirements data exist prior to 1984; thus the analysis of NEC requirements is restricted to the years 1984 through 1987.

Table 1 shows the dates of the EMR and EBF data used in the study, as well as the number of unique NECs found in each of the files. Since one goal of the study is to match NEC requirements with NEC inventories and assignments, it would be desirable for the two data sets to have the

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1. The number of Billets Authorized is used as the measure of requirements in this paper.

same dates. Unfortunately, the dates for which billet file data are available do not exactly match the EMR dates, but they are within two months of those dates. Note that the dates of the two files are closer together in 1986 and 1987 than in the two preceding years.

TABLE 1

CHARACTERISTICS OF DATA FILES

Dates		Number of NEC titles		
EMR	EBF	EMR	EBF	Both
Sep 1979	NA	1,029	NA	NA
Sep 1980	NA	1,014	NA	NA
Sep 1981	NA	987	NA	NA
Sep 1982	NA	973	NA	NA
Sep 1983	NA	1,054	NA	NA
Sep 1984	Jul 1984	1,112	1,120	1,037
Sep 1985	Nov 1985	1,150	1,171	1,086
Sep 1986	Sep 1986	1,176	1,138	1,087
Sep 1987	Aug 1987	1,209	1,173	1,125

Table 1 shows that the number of NEC titles held by personnel grew over time, as did the number of titles for which there were requirements. Some NECs were found only on the EMR; that is, there were no requirements for them, although some people possessed them and/or were assigned to them. Other NECs were found only on the billet file; there were requirements for such NECs, but no one had earned them or was assigned to them.

Variables of Interest

Using the EMR and EBF, the following variables were constructed for each NEC:

R = Requirements
  = the number of Billets Authorized specifying the NEC as either PNEC or SNEC[1]

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1. This definition leads to some overcounting of the number of billets requiring NECs. However, in practice, few billets specify two NECs. Between 1984 and 1987, the proportion of billets with two NECs ranged from 5 to 6 percent.

I = Inventory
= the number of people holding the NEC

A = Assignments
= the number of people having the NEC as a DNEC

M = Matched Assignments
= the number of people having the NEC as a DNEC and also holding the NEC.

The number of assignments is the best estimate of the number of people using the NEC. M is generally less than A because some people assigned to an NEC do not actually possess the NEC.

Trends over time in the levels of these variables, both at the NEC level and in the aggregate, are of interest. Also of interest are three ratios:

$U = M/I$

= the proportion of those holding an NEC who are assigned to it

I/R = the ratio of inventory to requirements

A/R = the ratio of assignments to requirements.

U is the utilization rate for an NEC. The ratio of inventory to requirements indicates the proportion of requirements that could be filled, and the ratio of assignments to requirements is the proportion of requirements that are filled at any given time (assuming that all assignments to the NEC are correct).

Special Cases

Although most NECs are used to identify specialized skills that an individual has earned, some are used for other purposes. These NECs are generally not earned via formal (or on-the-job) training, and were therefore excluded from the analysis. Often either requirements, inventory, or assignments for such NECs are zero by definition, so that the ratios defined above are not meaningful. The main types of NECs excluded were rating conversion NECs, Defense Grouping NECs, and "candidate" NECs.

Rating conversion NECs are assigned to rated individuals who are in training for a change of rating [4]. Although the inventory for a rating conversion NEC is positive, requirements for and assignments to such an NEC are zero. Between 46 and 79 rating conversion NECs were found in the 9 EMRs examined.

Defense Grouping (DG) NECs are assigned to nonrated personnel who are in the process of earning a rating. They identify the occupational area, or group of ratings, in which an individual is being trained or for which he has an aptitude [4]. There are eight Defense Grouping NECs; since all nonrated personnel are supposed to be assigned one, the inventory of DG NECs is quite high (around 50,000).

Candidate NECs[1] are assigned to individuals in the process of earning other NECs. As with rating conversion NECs, requirements and assignments are generally zero. The NECs in this category are:

ET-1401: Electronics Technician Trainee (Communications)
ET-1501: Electronics Technician Trainee (Radar)
   5301: UDT/SEAL Candidate
   5302: EOD Candidate
   5303: Second Class Diver Candidate
BU-5933: Basic Underwater Construction Technician Candidate
AW-7801: Naval Aircrewman Candidate
   8201: Naval Aircrewman Candidate
   9901: Nuclear Propulsion Plant Operator Trainee.

Three other NECs were also excluded. 3349 (Fleet Ballistic Missile Weapons and Navigation System Technician - Special Category) and 9999 (Women Petty Officers) are used to identify billets but not personnel. 5320 (Basic Combatant Swimmer) is used to identify personnel but not billets.

AGGREGATE NEC REQUIREMENTS, INVENTORY, AND ASSIGNMENTS

Table 2 contains aggregate values of NEC requirements (R), inventory (I), assignments (A), and matched assignments (M) for 1979 to 1987.[2] M/A, the fraction of time that individuals had the NECs they were assigned to, is also shown.

Between 1979 and 1987, the NEC inventory grew by almost 50 percent, and the number of NEC assignments grew by about one-third. The porportion of assignments witn matching NECs also grew steadily. Enlisted endstrength increased only 16 percent during this period.

Between 1984 and 1987, NEC requirements increased almost 14 percent; in contrast total requirements increased about 4 percent. The NEC inventory grew faster than requirements; however, the number of assignments grew at about the same rate as requirements.

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1. This category of NECs is not formally defined in the NEC manual [4].
2. The numbers in table 2 differ from those in [3] because more NECs are excluded here.

TABLE 2

AGGREGATE NEC DATA

Year	R	I	A	M	M/A (percent)
1979	NA	257,034	152,087	114,821	75.5
1980	NA	256,029	146,008	112,521	77.1
1981	NA	265,420	146,548	114,489	78.1
1982	NA	280,711	156,119	121,949	78.1
1983	NA	301,177	172,176	134,363	78.0
1984	212,991	320,057	178,395	142,758	80.0
1985	228,511	343,533	188,432	152,592	81.0
1986	234,715	365,047	196,655	165,668	84.2
1987	242,203	380,536	203,270	167,320	82.3
Percent change:					
1979-87	NA	48.0	33.7	45.7	
1984-87	13.7	18.9	13.9	17.2	

Given the large increase in the NEC inventory during the 1980s, several questions arise. First, is the Navy better able to meet NEC requirements now than it was several years ago? That is, is training being given in the NECs that are needed most? Second, are more NEC requirements being filled? Training is only one step toward filling requirements; appropriate assignment of the trained individuals is also necessary.

Table 3 gives the values of several ratios that can be used to answer these questions. U, the ratio of matched assignments to inventory, is a measure of the rate of NEC utilization.[1] U ranged from 43 to 45 percent between 1979 and 1987, with no noticeable upward or downward trend. Given the large increase in the NEC inventory during this period, it is encouraging that the utilization rate did not decline.

Next, consider the question of the fraction of NEC requirements that could be filled or that are being filled. At the aggregate level, the fraction of NEC requirements that could be met from the existing inventory is not simply the ratio of total inventory to total requirements. This is because excess inventory for one NEC cannot generally be used to offset shortages of other NEC.. Similarly, the fraction of requirements being met is not the ratio of total assignments to total

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1. An alternative measure of utilization is the ratio of total assignments (A) to inventory. See [3] for a discussion of the relative merits of these two measures.

requirements. Assignments to an NEC can exceed requirements, and excessassignments for one NEC should not be counted against unmet requirements for another.[1]

TABLE 3

AGGREGATE VALUES OF U, $I*/R$, AND $A*/R$

Year	U	$I*/R$	$A*/R$
1979	.447	NA	NA
1980	.439	NA	NA
1981	.431	NA	NA
1982	.434	NA	NA
1983	.446	NA	NA
1984	.446	.928	.773
1985	.444	.911	.756
1986	.454	.931	.788
1987	.440	.935	.797

To calculate the fraction of requirements that could be filled, define $I*$ as that portion of the NEC inventory that could be used to meet requirements. For an individual NEC, $I*$ equals either requirements (if inventory exceeds requirements) or inventory (if inventory is less than or equal to requirements). Similarly, to calculate the fraction of requirements that are being met, define $A*$ for an NEC as either requirements (if assignments exceed requirements) or assignments (if assignments are less than or equal to requirements).

Table 3 presents aggregate values of $I*/R$ and $A*/R$ for 1984 through 1987. It is hard to draw conclusions about trends from only four years of data. However, both the fraction of requirements that could be filled and the fraction that were being filled were higher in 1986 and 1987 than in the two preceding years. Although the data indicate that more than 90 percent of NEC requirements could have been filled from the existing inventory during these four years, fewer than 80 percent of requirements were being met. As earlier work has noted, there are a number of constraints on assignments--most notably, the requirement for sea-shore rotation--that can prevent individuals from using their NECs.

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1. It might seem odd that assignments should ever exceed requirements. However, if there is an excess of personnel within a distribution community, target manning (which is used to generate the requisitions against which assignments are made) will exceed the number of Billets Authorized. See [5] for details.

Tables 2 and 3 show what happened to NEC requirements, assignments, and inventories at the aggregate level. Patterns of change at the NEC level are also of interest; these are examined in the next section.

REQUIREMENTS, INVENTORY, AND ASSIGNMENTS AT THE NEC LEVEL

Table 1 showed that there is a large number of NECs, and that the number of "active" NECs--those found in the inventory, requirements, or both--has been growing over time. It would not be surprising to find that the variables discussed above, and the patterns of change in those variables, differ across NECs.

First, consider how inventory and requirements differ among NECs. Table 4 presents the distribution of NECs, inventory, and requirements by NEC size class for 1987.[1] The NECs ranged in size from 0 to well over 10,000, with the distribution of NECs by inventory size class being wider than the distribution by requirements size class. The largest NEC, 9502 (Instructor), had an inventory of 29,468 and requirements of 17,470.

Besides showing the distribution of NECs among size classes, table 4 shows the fraction of inventory (or requirements) falling in each class. Using either definition of size, it can be seen that although there are many small NECs, these NECs account for a small fraction of total inventory or requirements. For example, 54 percent of NECs had an inventory of 100 or fewer, but these NECs accounted for only 6 percent of the total inventory. Similarly, 62 percent of NECs had requirements of 100 or fewer, but these NECs constituted only 11 percent of total requirements. In contrast, the single largest NEC accounted for more than 7 percent of inventory and requirements.

It may be desirable to exclude small NECs from the analysis of U, I/R, and A/R. For one thing, small NECs may need to be managed differently from large NECs. For example, some policies that are useful in managing large NECs--such as closed-loop detailing--may be difficult to implement when only a few people and billets are involved. Moreover, as will be shown below, small NECs are more likely to have unusual values of the three variables than large NECs are, and will therefore give a misleading impression of the distributions of the variables.

The aggregate values of U, I/R, and A/R (found in table 3) were calculated by summing data in the EMR or EBF across NECs and forming the appropriate ratios from the totals. In order to calculate I/R and A/R at the NEC level, it is necessary to match the EMR to the billet file by NEC (U can be calculated from the EMR alone). Since there are more than

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1. The appendix presents such distributions for all available years.

TABLE 4
DISTRIBUTION OF NECS, INVENTORY, AND REQUIREMENTS BY SIZE CLASS, 1987

Size Class	Inventory used to measure size				Requirements used to measure size			
	NECs		Inventory		NECs		Requirements	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0	94	7.5%	0	0%	97	7.7%	0	0%
1-25	231	18.4	2,510	0.7	286	22.8	2,806	1.2
26-50	146	11.6	5,437	1.4	172	13.7	6,399	2.6
51-100	208	16.5	15,709	4.1	228	18.1	16,572	6.8
101-250	254	20.2	40,871	10.7	240	19.1	37,924	15.7
251-500	148	11.8	52,332	13.8	128	10.2	44,973	18.6
501-1000	107	8.5	74,603	19.6	65	5.2	42,442	17.5
1001-2500	48	3.8	67,528	17.7	32	2.5	44,524	18.4
2501-5000	14	1.1	47,028	12.4	6	0.5	18,430	7.6
5001-10,000	6	0.5	45,050	11.8	2	0.2	10,663	4.4
10,001+	1	0.1	29,468	7.7	1	0.1	17,470	7.2
Total	1257	100.0	380,536	100.0	1257	100.0	242,203	100.0

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900 NECs in each of the years studied, the complete list of require-
ments, inventory, and assignments by NEC is not presented for each year,
but only for 1987 (see the appendix). The results for all the years are
summarized below.

Table 5 presents the distribution of U values across NECs for 1979
through 1987. In this table, NECs with an inventory of 50 or fewer have
been excluded. U can range from 0 (none of the NECs being utilized) to
1 (all of the NECs being utilized). The distributions for 1979 through
1983 come from the EMR alone, since the billet file is not available for
those years. The distributions for 1984 through 1987, however, contain
all relevant NECs found in the EMR, the billet file, or both.

The table indicates that, in each of the years, NEC utilization
rates varied widely. Not surprisingly, few NECs had a utilization rate
of 1, and relatively few had a utilization rate of 0.[1] While the distri-
bution of NECs among utilization size classes varied over the eight-year
period, no consistent trends are noticeable.

Tables 6 and 7 show, respectively, the distribution of I/R and of
A/R across NECs for 1984 through 1987. In these tables, NECs with
requirements of 50 or fewer have been excluded. I/R and A/R have a
minimum value of 0 but no upper limit. I/R equals 0 if there are
requirements for the NEC but no one possesses it. A/R equals 0 if there
are requirements for the NEC but no one is assigned to it. Not surpris-
ingly, the distribution of A/R is generally lower than the distribution
of I/R, with few values greater than 2.

The bottom parts of tables 6 and 7 summarize the distributions of
I/R and A/R. Over the four-year period, there was an increase in the
percentage of NECs with an inventory greater than or equal to require-
ments. By 1987, more than 70 percent of NECs fell into this category.
In contrast, there was a decrease in the percentage of NECs with assign-
ments greater than or equal to requirements.

Tables A-5 and A-6 in the appendix present distributions of I/R and
A/R for all NECs. Comparing those tables with tables 6 and 7 reveals
that when all NECs are included, there are relatively more NECs with
extreme values of I/R and A/R. For example, in 1987, 6 percent of all
NECs had I/R equal to 0, 6 percent had I/R greater than or equal to 5,
5 percent had A/R equal to 0, and 3 percent had A/R greater than or
equal to 2. In each of the four years, between 7 and 8 percent of all
NECs had I/R and A/R undefined because requirements were zero.

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1. Table A-4 in the appendix shows that when all NECs are included,
between 4 and 11 percent of NECs have a utilization rate of 0. In
addition, up to 10 percent of the NECs have U undefined (because
inventory equals 0).

TABLE 5
DISTRIBUTION OF U, 1979-87
(Number and percent of NECs)

U	1979		1980		1981		1982		1983		1984		1985		1986		1987	
0	5	0.8%	6	1.0%	5	0.8%	7	1.1%	29	4.1%	21	2.9%	10	1.4%	11	1.5%	5	0.6%
0 - .1	51	8.0	47	7.5	60	9.3	56	8.4	57	8.1	55	7.6	52	7.2	64	8.5	66	8.4
.1 - .2	71	11.1	65	10.4	65	10.0	64	9.6	59	8.4	58	8.0	60	8.3	52	6.9	73	9.3
.2 - .3	84	13.2	83	13.3	92	14.2	86	12.9	76	10.8	66	9.2	72	10.0	79	10.5	100	12.7
.3 - .4	78	12.2	86	13.7	77	11.9	96	14.4	96	13.7	112	15.5	97	13.5	102	13.5	120	15.3
.4 - .5	81	12.7	71	11.3	87	13.4	78	11.7	92	13.1	97	13.5	123	17.1	115	15.2	98	12.5
.5 - .6	74	11.6	77	12.3	60	9.3	74	11.1	81	11.5	86	11.9	85	11.8	98	13.0	94	12.0
.6 - .7	58	9.1	55	8.8	73	11.3	69	10.4	68	9.7	72	10.0	68	9.4	85	11.3	81	10.3
.7 - .8	65	10.2	67	10.7	53	8.2	67	10.1	69	9.8	74	10.3	78	10.8	61	8.1	71	9.0
.8 - .9	51	8.0	42	6.7	49	7.6	45	6.8	45	6.4	55	7.6	46	6.4	55	7.3	43	5.5
.9 - 1.0	20	3.1	26	4.2	27	4.2	24	3.6	31	4.4	25	3.5	30	4.2	33	4.4	35	4.5
1.0	0	0	1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	638	100.0	626	100.0	648	100.0	666	100.0	703	100.0	721	100.0	721	100.0	755	100.0	786	100.0

NOTE: NECs with an inventory of 50 or less are excluded.

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TABLE 6

DISTRIBUTION OF INVENTORY/REQUIREMENTS
(Number and percent of NECs)

I/R	1984		1985		1986		1987	
0	8	1.3%	7	1.1%	5	0.7%	6	0.9%
0-.25	5	0.8	25	3.8	17	2.5	19	2.7
.25-.50	30	4.7	29	4.4	28	4.1	21	3.0
.50-.75	72	11.4	71	10.9	68	10.0	68	9.7
.75-1.00	89	14.1	103	15.8	112	16.5	97	13.8
1.00-1.25	101	16.0	88	13.5	88	13.0	109	15.5
1.25-1.50	86	13.6	88	13.5	99	14.6	99	14.1
1.50-1.75	86	13.6	65	10.0	76	11.2	95	13.5
1.75-2.00	48	7.6	51	7.8	57	8.4	53	7.5
2.0-3.0	83	13.1	94	14.4	98	14.4	100	14.2
3.0-4.0	15	2.4	18	2.8	19	2.8	18	2.6
4.0-5.0	3	0.5	6	0.9	3	0.4	7	1.0
5.0+	7	1.1	8	1.2	9	1.3	10	1.4
Total	633	100.0	653	100.0	679	100.0	702	100.0

Summary:

	1984		1985		1986		1987	
0-1.0	203	32.1%	230	35.2%	229	33.7%	208	29.6%
1.0+	430	67.9	423	64.8	450	66.3	494	70.4
Total	633	100.0	653	100.0	679	100.0	702	100.0

NOTE: NECs with requirements of 50 or fewer are excluded.

TABLE 7

DISTRIBUTION OF ASSIGNMENTS/REQUIREMENTS
(Number and percent of NECs)

A/R	1984		1985		1986		1987	
0	10	1.6%	5	0.8%	2	0.3%	2	0.3%
0-.25	45	7.1	53	8.1	50	7.4	36	5.1
.25-.50	69	10.9	79	12.1	67	9.9	86	12.3
.50-.75	138	21.8	140	21.4	153	22.5	149	21.2
.75-1.00	210	33.2	203	31.1	249	36.7	288	41.0
1.00-1.25	103	16.3	108	16.5	109	16.1	105	15.0
1.25-1.50	34	5.4	32	4.9	28	4.1	29	4.1
1.50-1.75	15	2.4	15	2.3	9	1.3	2	0.3
1.75-2.00	1	0.2	9	1.4	7	1.0	2	0.3
2.00+	8	1.3	9	1.4	5	0.7	3	0.4
Total	633	100.0	653	100.0	679	100.0	702	100.0
Summary:								
0-1.0	467	73.8%	476	72.9%	515	75.8%	556	79.2%
1.0+	166	26.2	177	27.1	164	24.2	146	20.8
Total	633	100.0	653	100.0	679	100.0	702	100.0

NOTE: NECs with requirements of 50 or fewer are excluded.

Thus far, the discussion has focused on shifts in the distribution of NECs among various categories. What about changes for individual NECs? Do they vary widely from changes found at the aggregate level?

Answering this question involves taking account of turnover among NECs. The list of valid NECs changes from year to year; some NECs are deleted, and new ones are created.[1] Thus, the aggregate change in inventory, assignments, and requirements can be broken into three components:

- The change for deleted NECs

- The change for newly created NECs

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1. In addition, some NECs are recoded; that is, the skill remains valid but the number representing it is changed. Recoding is not accounted for in the figures presented here.

- The change for "continuing" NECs, that is, those existing throughout the period.

The longer the time period, the higher the proportion of NECs that will be new or deleted.

Consider first the changes in I, A, and M between 1979 and 1987. In 1979, 1,029 unique NEC titles were found on the EMR; in 1987, 1,209 were found. However, only 659 titles were found in both years. In other words, 370 of the NECs found in 1979 had disappeared from the inventory by 1987, and 550 new NECs had appeared.

Table 8 shows the contribution of each of the three types of NEC to the aggregate change in inventory, assignments, and matched assignments. During this time period, new NECs contributed more than half as much to the increase in I, A, and M as continuing NECs did. New NECs contributed relatively more to assignments than to the other two variables.

TABLE 8

BREAKDOWN OF NECs AND CHANGES IN VARIABLES BY TYPE OF NEC, 1979-1987

| Type of NEC | Number of NECs | Changes in variables | | |
		I	A	M
Deleted	370	-40,223	-23,468	-15,438
New	550	60,612	36,300	26,731
Continuing	659	103,113	38,531	41,206
Total		123,502	51,183	52,499

Turn now to changes occurring between 1984 and 1987. Table 9 shows that 165 NECs disappeared and 227 new NECs appeared between these two years, and that 1,030 NECs existed in both years. Not surprisingly, new NECs accounted for less of the increase in I, A, and M during this period than they did between 1979 and 1987. New NECs contributed relatively more to the increase in requirements than to the increase in the other three variables.

For continuing NECs, it is possible to compute changes in variables during the time period and compare them to the changes found at the aggregate level. The next three tables summarize the results of such computations.

TABLE 9

BREAKDOWN OF NECs AND CHANGES IN VARIABLES
BY TYPE OF NEC, 1984-1987

Type of NEC	Number of NECs	Changes in variables			
		R	I	A	M
Deleted	165	-6,202	-10,254	-6,118	-2,914
New	227	12,498	16,064	6,587	4,362
Continuing	1,030	22,916	54,669	24,406	23,114
Total		29,212	60,479	24,875	24,562

Table 10 compares the changes in variables for continuing NECs as a group with the changes found for all NECs. Even though there were relatively few continuing NECs between 1979 and 1987, the growth in inventory, assignments, and matched assignments for these NECs was similar to the growth for all NECs. The same is true for changes occurring between 1984 and 1987. In both periods, the ratios U, I/R, and A/R moved in the same direction for continuing NECs as for all NECs, but they tended to change more for the continuing NECs.

Table 11 shows distributions of the percentage changes in R, I, A, and M among continuing NECs. It indicates that the changes for individual NECs in the group varied widely around the averages shown in table 10.

Consider first the 659 NECs that existed both in 1979 and 1987. For each of the three variables I, A, and M, over a quarter of the NECs experienced a decline (or no change), and a similar percentage experienced an increase of 100 percent or more.[1]

Next, consider the 1,030 NECs found in both 1984 and 1987. Once again, table 11 shows a wide variation in the percentage changes for individual NECs. Not surprisingly, the distribution is somewhat lower than that for 1979 to 1987, with relatively more negative changes and fewer large positive changes.

Table 12 presents information on the changes in U, I/R, and A/R for continuing NECs. In both time periods, a little more than half the NECs experienced a decline (or no change) in the utilization rate. Between 1984 and 1987, the ratio of inventory to requirements declined for over a third of the NECs, and the ratio of assignments to requirements declined for almost half the NECs.

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1. Small NECs probably account for a disproportionate share of this last category.

TABLE 10

CHANGES IN VARIABLES FOR ALL NECs
VS. CONTINUING NECs

| Years/ variable | Change in variable | |
	All NECs	Continuing NECs
1979-87		
I	48.0%	47.6%
A	33.7%	29.8%
M	45.7%	41.5%
U	-.007	-.019
1984-87		
R	13.7%	11.1%
I	18.9%	17.6%
A	13.9%	14.2%
M	17.2%	16.5%
U	-.006	-.004
I/R	.068	.089
A/R	.002	.023

TABLE 11

DISTRIBUTION OF CONTINUING NECs BY PERCENTAGE CHANGE IN VARIABLES
(Number and percent of NECs)

| Years/ variable | Percent change in variable | | | | | | | |
	0 or less		0-100		100 or more		Total	
1979-87								
I	178	27.0%	284	43.1%	197	29.9%	659	100%
A	224	34.0	256	38.8	179	27.2	659	100
M	212	32.2	240	36.4	207	31.4	659	100
1984-87								
R	442	42.9%	436	42.3%	152	14.8%	1,030	100%
I	335	32.5	501	48.6	194	18.8	1,030	100
A	431	41.8	374	36.3	225	21.8	1,030	100
M	435	42.2	367	35.6	228	22.1	1,030	100

TABLE 12

DISTRIBUTION OF CONTINUING NECS BY CHANGE IN RATIOS[a]
(Number and percent of NECs)

Years/ratio	Change in ratio					
	Negative or 0		Positive		Total	
1979-87						
U	365	56.4%	282	43.6%	647	100%
1984-87						
U	540	57.4	400	42.6	940	100
I/R	353	37.6	587	62.4	940	100
A/R	453	48.2	487	51.8	940	100

a. Cases in which a ratio was undefined in one of the
   years are missing.

CONCLUSION

This paper has presented information on NEC requirements between
1984 and 1987 and on NEC inventories and assignments between 1979 and
1987. Three ratios have also been discussed: the utilization rate (the
ratio of matched assignments to inventory), the ratio of inventory to
requirements, and the ratio of assignments to requirements.

At the aggregate level, the NEC inventory has been growing faster
than endstrength, and NEC requirements have been growing faster than
total requirements. Despite the growth in the inventory, the aggregate
utilization rate has remained relatively constant. Both the ability to
meet NEC requirements and the fraction of requirements filled appear to
have increased slightly between 1984 and 1987.

Because there are so many NECs, it is not practical to present
detailed analyses at the NEC level. This paper, therefore, summarized
results for individual NECs in two ways: First, it presented distribu-
tions of NECs by values of inventory, requirements, the utilization
rate, the ratio of inventory to requirements, and the ratio of assign-
ments to requirements. Second, it discussed distributions of changes in
these variables for individual NECs.

The results indicate how varied NECs are in size and in patterns of
change over time. Although analysis of NECs at the aggregate level
reveals some useful information, it does not reveal these variations

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among NECs. Analysis at the NEC level is needed to answer some policy-related questions, such as those involving particular ratings. Both historical and current data on NEC requirements, inventory, and assignments, as well as training data, are available at CNA to answer such questions.

REFERENCES

[1] CNA Research Memorandum 86-90, *Specialized Skill Training for Enlisted Navy Personnel: A Historical Account*, by Aline O. Quester et al., Apr 1986 (27860090)[1]

[2] CNA Research Memorandum 87-84, *Trends in C-School Skill Training*, by Alan J. Marcus, Jun 1987 (27870084)

[3] CNA Research Memorandum 88-22, *Trends in Navy Enlisted Classification (NEC) Inventories and their Utilization*, by Alan Marcus et al., Feb 1988 (27880022)

[4] Department of the Navy, Bureau of Naval Personnel, NAVPERS 18068E, *Navy Enlisted Manpower and Personnel Classifications and Occupational Standards, Section II: Navy Enlisted Classifications*, Apr 1987

[5] CNA Research Memorandum 87-216, *Enlisted Personnel Distribution*, by Marianne Bowes, Oct 1987 (27870216)

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1. The numbers in parentheses are internal CNA control numbers.

APPENDIX

SUPPLEMENTARY DATA

APPENDIX

SUPPLEMENTARY DATA

This appendix presents several tables that supplement those in the main text. Table A-1 is a list of the variables discussed in the main text by NEC for 1987. Tables A-2 and A-3 contain the distribution of all NECs (including small ones) among size classes; inventory is used to define size in table A-2, and requirements are used in table A-3. Table A-4 contains the distribution of U for all NECs (including small ones) for 1979 to 1987. Tables A-5 and A-6 present, respectively, the distribution of I/R and of A/R for all NECs for 1984 to 1987.

TABLE A-1
REQUIREMENTS, INVENTORY, AND ASSIGNMENTS BY NEC, 1987

NEC	R	I	A	M	U	I/R	A/R
0107	111	244	83	76	0.8115	2.1982	0.7477
0108	21	31	6	2	0.0645	1.4762	0.2857
0161	236	376	203	114	0.3032	1.5932	0.8602
0162	169	353	139	55	0.1558	2.0888	0.8225
0163	44	16	8	4	0.2500	0.3636	0.1818
0164	395	916	282	183	0.1998	2.3190	0.7139
0165	51	120	45	34	0.2833	2.3529	0.8824
0166	0	21	1	1	0.0476	UNDEF	UNDEF
0167	7	6	4	4	0.6667	0.8571	0.5714
0168	0	23	0	0	0.0000	UNDEF	UNDEF
0207	7	5	4	3	0.6000	0.7143	0.5714
0215	23	18	17	16	0.8889	0.7826	0.7391
0216	5	3	2	1	0.3333	0.6000	0.4000
0301	767	602	518	314	0.5216	0.7849	0.6754
0302	5	0	0	0	UNDEF	0.0000	0.0000
0311	356	281	165	143	0.5089	0.7893	0.4635
0312	629	756	742	381	0.5040	1.2019	1.1797
0313	185	425	127	84	0.1976	2.2973	0.6865
0314	0	0	0	0	UNDEF	UNDEF	UNDEF
0315	32	44	14	13	0.2955	1.3750	0.4375
0316	317	1027	291	238	0.2317	3.2397	0.9180
0317	1870	2205	1975	997	0.4522	1.1791	1.0561
0318	502	564	421	290	0.5142	1.1235	0.8386
0319	221	257	181	167	0.6498	1.1629	0.8190
0321	542	754	473	329	0.4363	1.3911	0.8727
0322	157	107	109	92	0.8598	0.6815	0.6943
0331	170	198	113	84	0.4242	1.1647	0.6647
0332	76	75	74	56	0.7467	0.9868	0.9737
0333	54	29	24	20	0.6897	0.5370	0.4444
0334	2	12	24	5	0.4167	6.0000	12.0000
0341	584	1425	627	550	0.3860	2.4401	1.0736
0342	52	82	37	28	0.3415	1.5769	0.7115
0355	0	0	0	0	UNDEF	UNDEF	UNDEF
0401	13	0	3	0	UNDEF	0.0000	0.2308
0402	166	227	204	168	0.7401	1.3675	1.2289
0403	60	40	14	8	0.2000	0.6667	0.2333
0404	90	146	58	44	0.3014	1.6222	0.6444
0406	29	63	38	13	0.2063	2.1724	1.3103
0407	60	35	53	13	0.3714	0.5833	0.8833
0408	98	104	67	64	0.6154	1.0612	0.6837
0409	7	27	8	8	0.2963	3.8571	1.1429
0410	2	0	0	0	UNDEF	0.0000	0.0000
0412	706	1162	896	857	0.7375	1.6459	1.2691
0413	29	73	68	13	0.1781	2.5172	2.3448
0414	15	11	32	5	0.4545	0.7333	2.1333
0415	0	0	9	0	UNDEF	UNDEF	UNDEF

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
0416	121	53	48	47	0.8868	0.4380	0.3967
0417	5	0	0	0	UNDEF	0.0000	0.0000
0418	15	0	33	0	UNDEF	0.0000	2.2000
0419	13	0	11	0	UNDEF	0.0000	0.8462
0420	1	0	0	0	UNDEF	0.0000	0.0000
0421	482	821	609	597	0.7272	1.7033	1.2635
0422	612	586	542	515	0.8788	0.9575	0.8856
0426	262	286	266	265	0.9266	1.0916	1.0153
0427	56	257	54	50	0.1946	4.5893	0.9643
0428	648	594	463	423	0.7121	0.9167	0.7145
0431	82	134	68	67	0.5000	1.6341	0.8293
0434	225	495	252	233	0.4707	2.2000	1.1200
0435	19	26	17	13	0.5000	1.3684	0.8947
0436	17	27	22	18	0.6667	1.5882	1.2941
0437	53	83	19	17	0.2048	1.5660	0.3585
0438	36	26	2	1	0.0385	0.7222	0.0556
0439	0	1	20	0	0.0000	UNDEF	UNDEF
0440	121	228	42	31	0.1360	1.8843	0.3471
0441	85	23	13	9	0.3913	0.2706	0.1529
0443	6	65	31	19	0.2923	10.8333	5.1667
0444	16	2	0	0	0.0000	0.1250	0.0000
0445	628	1306	456	333	0.2550	2.0796	0.7261
0446	39	57	12	9	0.1579	1.4615	0.3077
0447	203	264	154	135	0.5114	1.3005	0.7586
0448	57	5	0	0	0.0000	0.0877	0.0000
0449	99	151	92	83	0.5497	1.5253	0.9293
0450	0	95	8	6	0.6632	UNDEF	0.0000
0452	36	88	59	55	0.6250	2.4444	1.6389
0454	175	388	242	225	0.5799	2.2171	1.3829
0455	0	0	6	0	UNDEF	UNDEF	UNDEF
0456	143	185	123	116	0.6270	1.2937	0.8601
0457	151	310	171	156	0.5032	2.0530	1.1325
0459	117	225	143	126	0.5600	1.9231	1.2222
0464	20	6	12	1	0.1667	0.3000	0.6000
0465	22	4	2	0	0.0000	0.1818	0.0909
0472	12	7	9	5	0.7143	0.5833	0.7500
0473	33	31	17	11	0.3548	0.9394	0.5152
0474	86	95	70	38	0.4000	1.1047	0.8140
0475	55	39	34	20	0.5128	0.7091	0.6182
0477	54	43	27	18	0.4186	0.7963	0.5000
0479	0	0	0	0	UNDEF	0.0000	0.0000
0482	17	17	14	7	0.4118	1.0000	0.8235
0483	128	89	79	48	0.5393	0.6953	0.6172
0484	3	0	0	0	UNDEF	0.0000	0.0000
0492	20	12	9	8	0.6667	0.6000	0.4500
0612	72	119	83	67	0.5630	1.6528	1.1528
0613	52	71	57	41	0.5775	1.3654	1.0962

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
0614	150	79	49	36	0.4557	0.5267	0.3267
0615	0	0	0	0	UNDEF	UNDEF	UNDEF
0619	58	154	128	108	0.7013	2.6552	2.2069
0623	15	11	11	9	0.8182	0.7333	0.7333
0624	12	23	2	2	0.0870	1.9167	0.1667
0625	1	0	1	0	UNDEF	0.0000	1.0000
0626	145	99	74	63	0.6364	0.6828	0.5103
0628	34	30	24	18	0.6000	0.8824	0.7059
0629	19	21	21	19	0.9048	1.1053	1.1053
0718	59	190	73	69	0.3632	3.2203	1.2373
0719	54	64	52	50	0.7813	1.1852	0.9630
0720	33	88	27	26	0.2955	2.6667	0.8182
0721	63	85	80	44	0.5176	1.3492	1.2698
0746	278	452	275	249	0.5509	1.6259	0.9892
0747	89	113	56	55	0.4867	1.2697	0.6292
0748	335	360	275	231	0.6417	1.0746	0.8209
0749	150	157	133	131	0.8344	1.0467	0.8867
0750	41	42	37	30	0.7143	1.0244	0.9024
0751	31	0	4	0	UNDEF	0.0000	0.1290
0771	10	45	9	6	0.1333	4.5000	0.9000
0812	245	982	118	103	0.1049	4.0082	0.4816
0871	197	308	183	101	0.3279	1.5635	0.9289
0872	89	120	45	24	0.2000	1.3483	0.5056
0875	119	91	33	23	0.2527	0.7647	0.2773
0876	534	796	558	538	0.6759	1.4906	1.0449
0877	307	414	313	241	0.5821	1.3485	1.0195
0878	175	292	198	183	0.6267	1.6686	1.1314
0879	81	116	33	28	0.2414	1.4321	0.4074
0891	579	923	705	650	0.7042	1.5941	1.2176
0893	136	211	153	142	0.6730	1.5515	1.1250
0981	50	62	55	48	0.7742	1.2400	1.1000
0986	482	568	445	430	0.7570	1.1784	0.9232
0987	191	190	139	131	0.6895	0.9948	0.7277
0988	78	111	73	67	0.6036	1.4231	0.9359
0989	95	137	122	106	0.7737	1.4421	1.2842
0990	0	0	1	0	UNDEF	UNDEF	UNDEF
0991	253	332	277	260	0.7831	1.3123	1.0949
1026	406	506	397	384	0.7589	1.2463	0.9778
1101	0	2	0	0	0.0000	UNDEF	UNDEF
1102	525	527	450	419	0.7951	1.0038	0.8571
1103	28	4	3	0	0.0000	0.1429	0.1071
1105	0	6	0	0	0.0000	UNDEF	UNDEF
1106	130	145	127	116	0.8000	1.1154	0.9769
1107	123	135	102	97	0.7185	1.0976	0.8293
1108	78	59	53	43	0.7288	0.7564	0.6795
1109	52	36	15	14	0.3889	0.6923	0.2885
1110	37	13	47	10	0.7692	0.3514	1.2703

A-4

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
1111	442	874	259	248	0.2838	1.9774	0.5860
1112	129	113	102	100	0.8850	0.8760	0.7907
1113	65	141	77	76	0.5390	2.1692	1.1846
1114	58	72	54	51	0.7083	1.2414	0.9310
1115	43	67	62	55	0.8209	1.5581	1.4419
1116	47	104	82	78	0.7500	2.2128	1.7447
1117	9	26	8	7	0.2692	2.8889	0.8889
1119	4	2	2	0	0.0000	0.5000	0.5000
1120	2	0	0	0	UNDEF	0.0000	0.0000
1121	8	11	7	2	0.1818	1.3750	0.8750
1123	89	149	34	32	0.2148	1.6742	0.3820
1124	9	56	53	48	0.8571	6.2222	5.8889
1125	233	126	94	68	0.5397	0.5408	0.4034
1126	49	164	33	26	0.1585	3.3469	0.6735
1127	1146	1464	1286	1255	0.8572	1.2775	1.1222
1128	46	195	181	164	0.8410	4.2391	3.9348
1129	52	90	64	60	0.6667	1.7308	1.2308
1130	110	55	62	38	0.6909	0.5000	0.5636
1131	123	80	87	49	0.6125	0.6504	0.7073
1132	131	404	179	166	0.4109	3.0840	1.3664
1133	172	295	174	167	0.5661	1.7151	1.0116
1134	64	57	18	18	0.3158	0.8906	0.2813
1135	80	163	102	100	0.6135	2.0375	1.2750
1136	0	45	0	0	0.0000	UNDEF	UNDEF
1137	39	53	34	33	0.6226	1.3590	0.8718
1138	292	289	291	234	0.8097	0.9897	0.9966
1140	24	0	12	0	UNDEF	0.0000	0.5000
1141	7	0	1	0	UNDEF	0.0000	0.1429
1142	26	36	27	26	0.7222	1.3846	1.0385
1145	0	0	1	0	UNDEF	UNDEF	UNDEF
1146	139	278	126	126	0.4532	2.0000	0.9065
1147	196	217	141	136	0.6267	1.1071	0.7194
1148	169	301	241	191	0.6346	1.7811	1.4260
1149	54	77	60	55	0.7143	1.4259	1.1111
1150	21	20	21	14	0.7000	0.9524	1.0000
1151	21	59	40	39	0.6610	2.8095	1.9048
1152	26	12	2	1	0.0833	0.4615	0.0769
1153	91	44	44	30	0.6818	0.4835	0.4835
1154	72	23	23	13	0.5652	0.3194	0.3194
1155	108	72	46	37	0.5139	0.6667	0.4259
1157	33	11	21	6	0.5455	0.3333	0.6364
1158	12	9	6	3	0.3333	0.7500	0.5000
1159	10	0	2	0	UNDEF	0.0000	0.2000
1161	31	0	0	0	UNDEF	0.0000	0.0000
1162	21	29	19	18	0.6207	1.3810	0.9048
1163	352	577	439	426	0.7383	1.6392	1.2472
1166	196	243	196	170	0.6996	1.2398	1.0000

A-5

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
1167	14	47	27	27	0.6745	3.3571	1.9286
1168	69	99	77	66	0.6667	1.4348	1.1159
1169	14	24	0	0	0.0000	1.7143	0.0000
1176	523	96	138	83	0.8646	0.1836	0.2639
1177	158	38	62	31	0.8158	0.2405	0.3924
1179	16	0	0	0	UNDEF	0.0000	0.0000
1180	1	0	0	0	UNDEF	0.0000	0.0000
1181	39	262	193	177	0.6756	6.7179	4.9487
1182	80	94	72	67	0.7128	1.1750	0.9000
1183	13	25	11	10	0.4000	1.9231	0.8462
1188	136	261	149	146	0.5594	1.9191	1.0956
1189	127	236	161	156	0.6610	1.8583	1.2677
1191	95	100	94	86	0.8600	1.9526	0.9895
1193	36	118	32	27	0.2288	3.2778	0.8889
1195	56	159	67	64	0.4025	2.8393	1.1964
1196	175	237	161	150	0.6329	1.3543	0.9200
1197	27	73	30	28	0.3836	2.7037	1.1111
1201	60	98	52	50	0.5102	1.6333	0.8667
1202	50	115	41	40	0.3478	2.3000	0.8200
1203	4	50	13	12	0.2400	12.5000	3.2500
1403	69	148	60	56	0.3784	2.1449	0.8696
1412	46	93	51	36	0.3871	2.0217	1.1087
1413	190	307	191	182	0.5928	1.6158	1.0053
1414	36	63	9	3	0.0476	1.7500	0.2500
1415	240	669	272	249	0.3722	2.7875	1.1333
1416	191	0	13	0	UNDEF	0.0000	0.0681
1417	89	121	90	52	0.4298	1.3596	1.0112
1418	108	81	84	44	0.5432	0.7500	0.7778
1419	93	0	4	0	UNDEF	0.0000	0.0430
1420	414	710	251	203	0.2859	1.7150	0.6063
1421	0	0	0	0	UNDEF	UNDEF	UNDEF
1422	354	724	196	149	0.2058	2.0452	0.5537
1423	284	806	216	173	0.2146	2.8380	0.7606
1424	79	122	31	27	0.2213	1.5443	0.3924
1425	696	1260	604	493	0.3913	1.8103	0.8678
1427	203	317	171	153	0.4826	1.5616	0.8424
1428	195	118	96	51	0.4322	0.6051	0.4923
1429	0	0	1	0	UNDEF	UNDEF	UNDEF
1431	586	1367	554	502	0.3672	2.3328	0.9454
1432	78	183	69	54	0.2951	2.3462	0.8846
1434	165	437	147	129	0.2952	2.6485	0.8909
1435	176	330	175	62	0.1879	1.8750	0.9943
1436	562	1006	438	360	0.3579	1.7900	0.7794
1437	13	277	18	10	0.0361	21.3077	1.3846
1438	763	1400	662	546	0.3900	1.8349	0.8676
1439	69	95	62	49	0.5158	1.3768	0.8986
1440	5	11	2	1	0.0909	2.2000	0.4000

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
1441	110	343	98	85	0.2478	3.1182	0.8909
1442	154	198	103	55	0.2778	1.2857	0.6688
1443	38	83	19	13	0.1566	2.1842	0.5000
1444	112	250	101	57	0.2280	2.2321	0.9018
1445	519	682	343	258	0.3783	1.3141	0.6609
1446	449	867	292	227	0.2618	1.9310	0.6503
1447	11	52	10	6	0.1154	4.7273	0.9091
1448	93	163	84	65	0.3988	1.7527	0.9032
1449	77	201	57	50	0.2488	2.6104	0.7403
1450	0	8	5	3	0.3750	UNDEF	UNDEF
1451	49	83	59	58	0.6988	1.6939	1.2041
1452	138	150	105	69	0.4600	1.0870	0.7609
1453	566	830	479	397	0.4783	1.4664	0.8463
1454	121	178	69	64	0.3596	1.4711	0.5702
1455	0	0	0	0	UNDEF	UNDEF	UNDEF
1456	51	82	32	31	0.3780	1.6078	0.6275
1457	18	20	15	13	0.6500	1.1111	0.8333
1458	37	104	31	28	0.2692	2.8108	0.8378
1461	131	306	166	114	0.3725	2.3359	1.2672
1463	3	0	0	0	UNDEF	0.0000	0.0000
1464	28	27	35	11	0.4074	0.9643	1.2500
1465	24	73	15	4	0.0548	3.0417	0.6250
1467	7	2	0	0	0.0000	0.2857	0.0000
1468	11	15	11	9	0.6000	1.3636	1.0000
1470	100	226	54	45	0.1991	2.2600	0.5400
1471	166	283	120	99	0.3498	1.7048	0.7229
1472	95	234	77	66	0.2821	2.4632	0.8105
1473	108	243	92	74	0.3045	2.2500	0.8519
1477	76	109	73	70	0.6422	1.4342	0.9605
1479	5	0	4	0	UNDEF	0.0000	0.8000
1486	2	4	0	0	0.0000	2.0000	0.0000
1491	103	104	68	30	0.2885	1.0097	0.6602
1492	13	0	0	0	UNDEF	0.0000	0.0000
1493	3	0	0	0	UNDEF	0.0000	0.0000
14AA	29	176	27	8	0.0455	6.0690	0.9310
14AB	93	60	54	25	0.4167	0.6452	0.5806
14AC	1	5	0	0	0.0000	5.0000	0.0000
14AD	17	38	2	0	0.0000	2.2353	0.1176
14AE	11	8	1	0	0.0000	0.7273	0.0909
14BA	33	23	4	2	0.0870	0.6970	0.1212
14BB	1	3	11	2	0.6667	3.0000	11.0000
14BD	0	5	0	0	0.0000	UNDEF	UNDEF
14BE	1	2	0	0	0.0000	2.0000	0.0000
14CA	45	55	24	9	0.1636	1.2222	0.5333
14CB	8	14	8	1	0.0714	1.7500	1.0000
14CC	0	3	0	0	0.0000	UNDEF	UNDEF
14CD	0	37	0	0	0.0000	UNDEF	UNDEF

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
14CE	0	25	0	0	0.0000	UNDEF	UNDEF
14CF	2	8	2	0	0.0000	4.0000	1.0000
14CG	14	9	3	0	0.0000	0.6429	0.2143
14CH	2	7	2	0	0.0000	3.5000	1.0000
14CJ	15	31	21	5	0.1613	2.0667	1.4000
14CK	2	6	0	0	0.0000	3.0000	0.0000
14CL	0	11	0	0	0.0000	UNDEF	UNDEF
14CM	5	6	1	1	0.1667	1.2000	0.2000
14CN	0	1	1	1	1.0000	UNDEF	UNDEF
14CP	4	0	0	0	UNDEF	0.0000	0.0000
14EA	20	55	11	2	0.0364	2.7500	0.5500
14EB	14	110	161	68	0.6182	7.8571	11.5000
14EC	3	13	2	0	0.0000	4.3333	0.6667
14ED	1	33	1	0	0.0000	33.0000	1.0000
14EE	8	43	2	1	0.0233	5.3750	0.2500
14EF	1	1	8	0	0.0000	1.0000	8.0000
14EG	1	0	0	0	UNDEF	0.0000	0.0000
14EH	0	2	0	0	0.0000	UNDEF	UNDEF
14EJ	8	0	0	0	UNDEF	0.0000	0.0000
14FA	34	34	27	18	0.5294	1.0000	0.7941
14GL	2	0	0	0	UNDEF	0.0000	0.0000
14HA	27	100	14	8	0.0800	3.7037	0.5185
14HB	161	87	146	67	0.7701	0.5404	0.9068
14HC	34	7	25	0	0.0000	0.2059	0.7353
14HD	6	30	2	0	0.0000	5.0000	0.3333
14HE	7	15	1	0	0.0000	2.1429	0.1429
14HF	6	20	1	0	0.0000	3.3333	0.1667
14HG	26	6	3	1	0.1667	0.2308	0.1154
14PA	8	3	3	0	0.0000	0.3750	0.3750
14PB	5	29	2	2	0.0690	5.8000	0.4000
14PC	5	11	1	0	0.0000	2.2000	0.2000
14QA	2	14	2	0	0.0000	7.0000	1.0000
14QB	0	36	0	0	0.0000	UNDEF	UNDEF
14QC	10	56	17	10	0.1786	5.6000	1.7000
14QD	25	7	11	1	0.1429	0.2800	0.4400
14RA	3	17	6	0	0.0000	5.6667	2.0000
14RB	0	42	1	1	0.0238	UNDEF	UNDEF
14RC	65	68	34	19	0.2794	1.0462	0.5231
14RD	58	29	36	13	0.4483	0.5000	0.6207
14SA	13	59	8	1	0.0169	4.5385	0.6154
14SB	0	12	0	0	0.0000	UNDEF	UNDEF
14SC	0	3	0	0	0.0000	UNDEF	UNDEF
14SD	8	14	1	0	0.0000	1.7500	0.1250
14SE	0	46	0	1	0.0217	UNDEF	UNDEF
14SF	78	126	150	90	0.7143	1.6154	1.9231
14TA	2	80	4	1	0.0125	40.0000	2.0000
14TB	1	1	0	0	0.0000	1.0000	0.0000

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
14TC	1	8	1	0	0.0000	8.0000	1.0000
14TD	13	0	1	0	UNDEF	0.0000	0.0769
14TE	1	0	0	0	UNDEF	0.0000	0.0000
14TF	0	5	0	0	0.0000	UNDEF	UNDEF
14TG	93	52	138	40	0.7692	0.5591	1.48?9
14TH	0	2	0	0	0.0000	UNDEF	UNDEF
14TJ	0	1	0	0	0.0000	UNDEF	UNDEF
142A	100	172	120	73	0.4244	1.7200	1.2000
142E	4	3	2	0	0.0000	0.7500	0.5000
142G	7	71	3	3	0.0423	10.1429	0.4286
142H	3	163	3	3	0.0184	54.3333	1.0000
142J	4	91	7	6	0.0659	22.7500	1.7500
142K	6	266	10	3	0.0113	44.3333	1.6667
142L	0	173	1	1	0.0058	UNDEF	UNDEF
142M	1	104	0	0	0.0000	104.0000	0.0000
142P	0	1	0	0	0.0000	UNDEF	UNDEF
1502	108	131	103	91	0.6947	1.2130	0.9537
1503	302	324	217	188	0.5802	1.0728	0.7185
1504	151	299	93	75	0.2508	1.9801	0.6159
1507	53	83	45	39	0.4699	1.5660	0.8491
1508	88	160	61	53	0.3313	1.8182	0.6932
1509	20	41	17	13	0.3171	2.0500	0.8500
1510	12	0	6	0	UNDEF	0.0000	0.5000
1511	4	0	0	0	UNDEF	0.0000	0.0000
1516	292	450	210	168	0.3733	1.5411	0.7192
1522	85	113	88	86	0.7611	1.3294	1.0353
1523	33	47	27	22	0.4681	1.4242	0.8182
1524	2	0	0	0	UNDEF	0.0000	0.0000
1570	1	0	0	0	UNDEF	0.0000	0.0000
1571	1	4	1	0	0.0000	4.0000	1.0000
1572	578	1042	567	542	0.5202	1.8028	0.9810
1573	35	25	6	4	0.1600	0.7143	0.1714
1574	99	256	93	71	0.2773	2.5859	0.9394
1576	49	50	54	27	0.5400	1.0204	1.1020
1577	32	190	20	18	0.0947	5.9375	0.6250
1578	94	81	65	46	0.5679	0.8617	0.6915
1579	186	270	180	152	0.5630	1.4516	0.9677
1580	142	226	146	130	0.5752	1.5915	1.0282
1588	1058	1279	915	859	0.6716	1.2089	0.8648
1614	21	9	12	6	0.6667	0.4286	0.5714
1615	162	251	101	94	0.3745	1.5494	0.6235
1616	139	227	111	99	0.4361	1.6331	0.7986
1622	34	39	26	25	0.6410	.1471	0.7647
1623	174	288	161	156	0.5417	1.6552	0.9253
1624	32	30	19	19	0.6333	0.9375	0.5938
1634	82	153	85	85	0.5556	1.8659	1.0366
1635	23	11	9	5	0.4545	0.4783	0.3913

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
1636	43	111	24	24	0.2162	2.5814	0.5581
1637	43	135	98	91	0.6741	3.1395	2.2791
1638	108	109	120	102	0.9358	1.0093	1.1111
1645	11	11	5	5	0.4545	1.0000	0.4545
1647	54	74	57	57	0.7703	1.3704	1.0556
1653	135	150	99	92	0.6133	1.1111	0.7333
1654	0	6	0	0	0.0000	UNDEF	UNDEF
1655	62	125	78	76	0.6080	2.0161	1.2581
1656	6	0	0	0	UNDEF	0.0000	0.0000
1664	213	280	198	176	0.6286	1.3146	0.9296
1665	166	203	100	85	0.4187	1.2229	0.6024
1666	1	0	0	0	UNDEF	0.0000	0.0000
1667	113	168	70	63	0.3750	1.4867	0.6195
1668	174	290	170	158	0.5448	1.6667	0.9770
1671	96	124	71	69	0.5565	1.2917	0.7396
1672	123	206	90	80	0.3883	1.6748	0.7317
1673	26	81	30	26	0.3210	3.1154	1.1538
1674	10	59	11	11	0.1864	5.9000	1.1000
1681	81	88	62	57	0.6477	1.0864	0.7654
1682	94	168	68	67	0.3988	1.7872	0.7234
1683	41	54	26	21	0.3889	1.3171	0.6341
1684	22	2	3	1	0.5000	0.0909	0.1364
1731	625	1293	1019	954	0.7378	2.0688	1.6304
1733	566	834	677	646	0.7746	1.4735	1.1961
1734	259	372	281	276	0.7419	1.4363	1.0849
1735	18	23	6	3	0.1304	1.2778	0.3333
1741	32	33	29	21	0.6364	1.0313	0.9063
1743	14	21	9	8	0.3810	1.5000	0.6429
1753	43	63	48	47	0.7460	1.4651	1.1163
1761	94	273	101	77	0.2821	2.9043	1.0745
1763	66	270	120	96	0.3556	4.0909	1.8182
1764	25	35	2	1	0.0286	1.4000	0.0800
1773	55	174	55	47	0.2701	3.1636	1.0000
1774	62	175	26	18	0.1029	2.8226	0.4194
1775	18	36	7	7	0.1944	2.0000	0.3889
1781	249	305	234	212	0.6951	1.2249	0.9398
1812	83	125	78	76	0.6080	1.5060	0.9398
1820	93	63	55	23	0.3651	0.6774	0.5914
1821	219	160	102	95	0.5938	0.7306	0.4658
1903	88	97	85	65	0.6701	1.1023	0.9659
1918	76	75	53	53	0.7067	0.9868	0.6974
2186	647	501	532	487	0.9721	0.7743	0.8223
2211	37	71	11	10	0.1408	1.9189	0.2973
2301	31	38	26	21	0.5526	1.2258	0.8387
2304	1534	1605	921	792	0.4935	1.0463	0.6004
2313	1187	2888	1341	1219	0.4221	2.4330	1.1297
2318	1054	1183	940	708	0.5985	1.1224	0.8918

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
2319	471	286	148	133	0.4650	0.6072	0.3142
2342	629	1180	638	495	0.4195	1.8760	1.0143
2346	1108	1212	849	624	0.5149	1.0939	0.7662
2350	0	24	0	0	0.0000	UNDEF	UNDEF
2354	41	87	22	11	0.1264	2.1220	0.5366
2359	288	502	193	182	0.3625	1.7431	0.6701
2363	74	96	72	39	0.4063	1.2973	0.9730
2371	549	464	134	75	0.1616	0.8452	0.2441
2372	327	304	46	34	0.1118	0.9297	0.1407
2374	34	49	14	13	0.2653	1.4412	0.4118
2378	0	14	0	0	0.0000	UNDEF	UNDEF
2393	135	190	93	71	0.3737	1.4074	0.6889
23CD	0	15	0	0	0.0000	UNDEF	UNDEF
23CF	0	81	8	6	0.0741	UNDEF	UNDEF
23CG	28	13	4	2	0.1538	0.4643	0.1429
23CH	0	53	9	7	0.1321	UNDEF	UNDEF
23CJ	21	66	3	3	0.0455	3.1429	0.1429
23CK	0	75	8	7	0.0933	UNDEF	UNDEF
23CL	0	61	14	13	0.2131	UNDEF	UNDEF
23CQ	235	167	170	96	0.5749	0.7106	0.7234
23CR	0	1	1	0	0.0000	UNDEF	UNDEF
23CS	0	2	0	0	0.0000	UNDEF	UNDEF
23CT	2	1	0	0	0.0000	0.5000	0.0000
23CV	2	0	0	0	UNDEF	0.0000	0.0000
23EA	73	807	108	92	0.1140	11.0548	1.4795
23EB	6	217	12	10	0.0461	36.1667	2.0000
23EC	7	244	48	45	0.1844	34.8571	6.8571
23ED	5	372	41	40	0.1075	74.4000	8.2000
23EF	2	52	6	6	0.1154	26.0000	3.0000
23EG	0	29	4	1	0.0345	UNDEF	UNDEF
23EH	18	39	0	0	0.0000	2.1667	0.0000
23EJ	252	0	10	0	0.0000	0.0000	0.0397
23ES	1	43	0	0	0.0000	43.0000	0.0000
23EW	0	14	29	11	0.7857	UNDEF	UNDEF
23EY	50	0	0	0	UNDEF	0.0000	0.0000
23JC	0	107	2	2	0.0187	UNDEF	UNDEF
23JH	12	438	426	279	0.6370	36.5000	35.5000
23JL	14	0	0	0	UNDEF	0.0000	0.0000
23JN	0	1	0	0	0.0000	UNDEF	UNDEF
23JQ	41	0	0	0	UNDEF	0.0000	0.0000
23MO	1	0	0	0	UNDEF	0.0000	0.0000
23ME	0	84	3	2	0.0238	UNDEF	UNDEF
23MF	3	136	3	3	0.0221	45.3333	1.0000
23MG	0	0	1	0	UNDEF	UNDEF	UNDEF
23MJ	0	3	1	1	0.3333	UNDEF	UNDEF
23ML	0	1	0	0	0.0000	UNDEF	UNDEF
23MZ	132	359	300	227	0.6323	2.7197	2.2727

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
23NA	0	2	0	0	0.0000	UNDEF	UNDEF
23NB	316	405	87	78	0.1926	1.2816	0.2753
23NC	4	79	0	0	0.0000	19.7500	0.0000
23ND	0	4	0	0	0.0000	UNDEF	UNDEF
23NE	0	1	0	0	0.0000	UNDEF	UNDEF
23NF	0	3	0	0	0.0000	UNDEF	UNDEF
23NG	2	94	99	71	0.7553	47.0000	49.5000
23NH	0	41	45	32	0.7805	UNDEF	UNDEF
23TA	56	88	66	58	0.6591	1.5714	1.1786
23TB	62	48	43	31	0.6458	0.7742	0.6935
23TC	33	28	25	21	0.7500	0.8485	0.7576
2511	0	0	0	0	UNDEF	UNDEF	UNDEF
2514	201	162	183	153	0.9444	0.8060	0.9104
2516	2	0	0	0	UNDEF	0.0000	0.0000
2612	702	968	678	507	0.5238	1.3789	0.9658
2703	308	341	162	90	0.2639	1.1071	0.5260
2704	45	51	1	1	0.0196	1.1333	0.0222
2705	22	28	16	15	0.5357	1.2727	0.7273
2706	88	237	60	55	0.2321	2.6932	0.6818
2707	65	51	27	26	0.5098	0.7846	0.4154
2708	7	0	0	0	UNDEF	0.0000	0.0000
2734	86	182	67	61	0.3352	2.1163	0.7791
2741	69	58	10	10	0.1724	0.8406	0.1449
2742	472	699	369	333	0.4764	1.4809	0.7818
2743	59	62	12	8	0.1290	1.0508	0.2034
2744	38	18	7	4	0.2222	0.4737	0.1842
2745	63	33	8	6	0.1818	0.5238	0.1270
2746	44	27	5	3	0.1111	0.6136	0.1136
2747	22	16	1	1	0.0625	0.7273	0.0455
2750	44	82	7	5	0.0610	1.8636	0.1591
2751	236	148	43	40	0.2703	0.6271	0.1822
2752	69	19	0	0	0.0000	0.2754	0.0000
2757	6	0	0	0	UNDEF	0.0000	0.0000
2759	39	88	40	37	0.4205	2.2564	1.0256
2813	278	214	2	1	0.0047	0.7698	0.0072
2814	30	24	11	3	0.1250	0.8000	0.3667
2815	487	1306	326	251	0.1922	2.6817	0.6694
2816	582	567	268	134	0.2363	0.9742	0.4605
2819	54	99	17	6	0.0606	1.8333	0.3148
2820	82	4	1	1	0.2500	0.0488	0.0122
2821	297	315	103	64	0.2032	1.0606	0.3468
2822	143	584	164	102	0.1747	4.0839	1.1469
2823	513	551	315	252	0.4574	1.0741	0.6140
2824	466	33	8	3	0.0909	0.0708	0.0172
2825	215	99	57	29	0.2929	0.4605	0.2651
2826	0	17	0	0	0.0000	UNDEF	UNDEF
3111	92	69	32	27	0.3913	0.7500	0.3478

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
3112	942	1357	702	666	0.4908	1.4406	0.7452
3113	362	398	205	185	0.4648	1.0994	0.5663
3114	181	93	73	40	0.4301	0.5138	0.4033
3122	800	1246	668	621	0.4984	1.5575	0.8350
3154	796	784	331	297	0.3788	0.9849	0.4158
3221	299	336	262	196	0.5833	1.1237	0.8763
3251	28	29	2	0	0.0000	1.0357	0.0714
3303	288	554	343	335	0.6047	1.9236	1.1910
3304	46	77	34	28	0.3636	1.6739	0.7391
3305	348	506	389	378	0.7470	1.4540	1.1178
3307	9	0	11	0	UNDEF	0.0000	1.2222
3313	583	1128	725	671	0.5949	1.9348	1.2436
3314	62	76	50	14	0.1842	1.2258	0.8065
3315	378	637	453	422	0.6625	1.6852	1.1984
3316	26	17	22	6	0.3529	0.6538	0.8462
3317	284	443	354	342	0.7720	1.5599	1.2465
3319	33	0	24	0	UNDEF	0.0000	0.7273
3322	258	446	280	237	0.5314	1.7287	1.0853
3323	88	120	95	73	0.6083	1.3636	1.0795
3324	410	548	464	379	0.6916	1.3366	1.1317
3325	5	111	4	1	0.0090	22.2000	0.8000
3326	254	318	281	173	0.5440	1.2520	1.1063
3327	80	123	89	71	0.5772	1.5375	1.1125
3328	10	0	12	0	UNDEF	0.0000	1.2000
3329	12	0	15	0	UNDEF	0.0000	1.2500
3332	29	19	25	7	0.3684	0.6552	0.8621
3334	31	38	20	12	0.3158	1.2258	0.6452
3336	35	12	22	2	0.1667	0.3429	0.6286
3342	26	35	22	9	0.2571	1.3462	0.8462
3351	354	438	375	339	0.7740	1.2373	1.0593
3353	1088	1390	1305	1248	0.8978	1.2776	1.1994
3354	1637	1760	1649	1549	0.8801	1.0751	1.0073
3355	1868	2448	2196	2000	0.8170	1.3105	1.1756
3356	827	778	926	672	0.8638	0.9407	1.1197
3359	520	875	595	552	0.6309	1.6827	1.1442
3363	680	825	724	694	0.8412	1.2132	1.0647
3364	832	1037	890	847	0.8168	1.2464	1.0697
3365	1069	1044	960	789	0.7557	0.9766	0.8980
3366	456	534	453	374	0.7004	1.1711	0.9934
3373	563	1269	697	697	0.5493	2.2540	1.2380
3376	58	553	133	99	0.1790	9.5345	2.2931
3383	611	797	777	740	0.9285	1.3044	1.2717
3384	634	953	886	858	0.9003	1.5032	1.3975
3385	1294	1423	1244	1192	0.8377	1.0997	0.9614
3386	284	434	411	356	0.8203	1.5282	1.4472
3389	188	256	194	162	0.6328	1.3617	1.0319
3393	204	193	155	142	0.7358	0.9461	0.7598

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
3394	198	177	173	147	0.8305	0.8939	0.8737
3395	414	376	310	296	0.7872	0.9082	0.7488
3396	134	88	95	69	0.7841	0.6567	0.7090
3522	0	10	0	0	0.0000	UNDEF	UNDEF
3524	1191	2159	874	777	0.3599	1.8128	0.7338
3525	0	85	1	0	0.0000	UNDEF	UNDEF
3527	0	183	0	0	0.0000	UNDEF	UNDEF
3528	0	0	1	0	UNDEF	UNDEF	UNDEF
3529	1215	2691	1385	1342	0.4987	2.2148	1.1399
3535	92	160	95	81	0.5063	1.7391	1.0326
3537	39	37	1	1	0.0270	0.9487	0.0256
3601	56	24	6	6	0.2500	0.4286	0.1071
3801	42	30	25	20	0.6667	0.7143	0.5952
3802	13	5	6	5	1.0000	0.3846	0.4615
3803	228	119	125	103	0.8655	0.5219	0.5482
3804	11	8	5	5	0.6250	0.7273	0.4545
3805	275	149	132	121	0.8121	0.5418	0.4800
3806	230	135	125	110	0.8148	0.5870	0.5435
3807	29	24	22	16	0.6667	0.8276	0.7586
3808	37	38	25	21	0.5526	1.0270	0.6757
3809	190	114	109	92	0.8070	0.6000	0.5737
3811	98	51	50	45	0.8824	0.5204	0.5102
3812	60	43	33	31	0.7209	0.7167	0.5500
3813	114	79	74	65	0.8228	0.6930	0.6491
3814	73	42	37	34	0.8095	0.5753	0.5068
3815	58	46	42	37	0.8043	0.7931	0.7241
3825	62	51	47	45	0.8824	0.8226	0.7581
3851	75	49	37	37	0.7551	0.6533	0.4933
3901	237	203	93	85	0.4187	0.8565	0.3924
3902	66	5	30	0	0.0000	0.0758	0.4545
3903	314	169	130	96	0.5680	0.5382	0.4140
3904	0	0	7	0	UNDEF	UNDEF	UNDEF
3905	71	88	72	58	0.6591	1.2394	1.0141
3910	194	65	32	22	0.3385	0.3351	0.1649
3911	77	86	25	15	0.1744	1.1169	0.3247
3920	269	464	248	231	0.4978	1.7249	0.9219
3921	248	225	63	45	0.2000	0.9073	0.2540
4111	0	737	519	463	0.6282	UNDEF	UNDEF
4115	0	356	282	231	0.6489	UNDEF	UNDEF
4117	3	0	1	0	UNDEF	0.0000	0.3333
4120	0	0	1	0	UNDEF	UNDEF	UNDEF
4121	0	211	177	139	0.6588	UNDEF	UNDEF
4122	0	134	116	81	0.6045	UNDEF	UNDEF
4123	383	102	78	63	0.6176	0.2663	0.2037
4124	468	74	63	52	0.7027	0.1581	0.1346
4127	266	128	119	80	0.6250	0.4812	0.4474
4131	7	8	1	1	0.1250	1.1429	0.1429

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
4133	34	12	2	0	0.0000	0.3529	0.0588
4135	19	10	2	1	0.1000	0.5263	0.1053
4204	459	961	431	416	0.4329	2.0937	0.9390
4206	139	139	15	9	0.0647	1.0000	0.1079
4221	322	387	47	45	0.1163	1.2019	0.1460
4245	2763	2697	2256	2050	0.7601	0.9761	0.8165
4246	497	1231	341	332	0.2697	2.4769	0.6861
4252	429	966	409	407	0.4213	2.2517	0.9534
4262	279	1031	333	331	0.3210	3.6953	1.1935
4283	467	559	343	317	0.5671	1.1970	0.7345
4291	464	752	290	257	0.3418	1.6207	0.6250
4294	1139	2909	1249	1076	0.3699	2.5540	1.0966
4295	343	660	259	241	0.3652	1.9242	0.7551
4296	286	253	157	144	0.5692	0.8846	0.5490
4301	54	45	23	23	0.5111	0.8333	0.4259
4312	0	171	1	1	0.0058	UNDEF	UNDEF
4314	145	139	86	81	0.5827	0.9586	0.5931
4315	354	469	118	88	0.1876	1.3249	0.3333
4316	95	192	52	49	0.2552	2.0211	0.5474
4317	408	462	138	120	0.2597	1.1324	0.3382
4318	53	124	26	24	0.1935	2.3396	0.4906
4331	148	190	26	25	0.1316	1.2838	0.1757
4355	93	82	28	26	0.3171	0.8817	0.3011
4362	321	412	208	176	0.4272	1.2835	0.6480
4365	45	0	6	0	UNDEF	0.0000	0.1333
4366	47	29	28	18	0.6207	0.6170	0.5957
4381	190	321	171	153	0.4766	1.6895	0.9000
4382	150	105	59	42	0.4000	0.7000	0.3933
4398	171	249	111	107	0.4297	1.4561	0.6491
4501	14	94	6	5	0.0532	6.7143	0.4286
4502	145	243	112	109	0.4486	1.6759	0.7724
4503	144	109	82	66	0.6055	0.7569	0.5694
4505	457	909	577	477	0.5248	1.9891	1.2626
4507	40	73	13	13	0.1781	1.8250	0.3250
4511	39	133	9	7	0.0526	3.4103	0.2308
4512	174	719	246	225	0.3129	4.1322	1.4138
4513	304	794	387	344	0.4332	2.6118	1.2730
4515	108	230	78	76	0.3304	2.1296	0.7222
4531	23	113	5	3	0.0265	4.9130	0.2174
4532	388	692	307	201	0.2905	1.7835	0.7912
4533	599	847	408	278	0.3282	1.4140	0.6811
4615	550	1296	566	527	0.4066	2.3564	1.0291
4616	146	216	57	35	0.1620	1.4795	0.3904
4621	236	411	160	99	0.2409	1.7415	0.6780
4626	119	120	86	80	0.6667	1.0084	0.7227
4631	85	137	103	88	0.6423	1.6118	1.2118
4632	143	118	99	62	0.5254	0.8252	0.6923

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
4666	109	198	91	88	0.4444	1.8165	0.8349
4668	167	299	145	129	0.4314	1.7904	0.8683
4669	40	95	34	28	0.2947	2.3750	0.8500
4671	262	219	173	146	0.6667	0.8359	0.6603
4672	47	96	60	59	0.6146	2.0426	1.2766
4673	51	65	47	44	0.6769	1.2745	0.9216
4703	122	123	92	80	0.6504	1.0082	0.7541
4704	5	24	4	4	0.1667	4.8000	0.8000
4705	21	0	2	0	UNDEF	0.0000	0.0952
4706	12	4	4	3	0.7500	0.3333	0.3333
4707	34	24	5	4	0.1667	0.7059	0.1471
4709	3	40	14	14	0.3500	13.3333	4.6667
4711	53	46	26	25	0.5435	0.8679	0.4906
4712	27	41	37	34	0.8293	1.5185	1.3704
4713	27	57	2	2	0.0351	2.1111	0.0741
4714	69	201	33	31	0.1542	2.9130	0.4783
4715	72	130	59	52	0.4000	1.8056	0.8194
4716	165	382	182	171	0.4476	2.3152	1.1030
4721	552	736	418	395	0.5367	1.3333	0.7572
4722	3	0	0	0	UNDEF	0.0000	0.0000
4723	235	741	220	203	0.2740	3.1532	0.9362
4724	2	0	0	0	UNDEF	0.0000	0.0000
4727	100	175	100	86	0.4914	1.7500	1.0000
4728	117	122	88	69	0.5656	1.0427	0.7521
4731	339	686	456	411	0.5991	2.0236	1.3451
4734	116	156	99	93	0.5962	1.3448	0.8534
4743	80	360	66	62	0.1722	4.5000	0.8250
4745	75	111	65	56	0.5045	1.4800	0.8667
4746	427	347	258	196	0.5648	0.8126	0.6042
4747	115	156	109	99	0.6346	1.3565	0.9478
4749	103	133	82	76	0.5714	1.2913	0.7961
4752	111	310	64	61	0.1968	2.7928	0.5766
4762	126	488	33	32	0.0656	3.8730	0.2619
4771	47	46	13	12	0.2609	0.9787	0.2766
4772	62	95	34	29	0.3053	1.5323	0.5484
4773	73	106	41	36	0.3396	1.4521	0.5616
4774	223	276	108	97	0.3514	1.2377	0.4843
4775	339	444	237	200	0.4505	1.3097	0.6991
4776	79	79	44	37	0.4684	1.0000	0.5570
4905	0	9	13	9	1.0000	UNDEF	UNDEF
4911	1	0	19	0	UNDEF	0.0000	19.0000
4921	284	306	165	160	0.5229	1.0775	0.5810
4931	155	172	184	106	0.6163	1.1097	1.1871
4932	168	188	98	81	0.4309	1.1190	0.5833
4933	89	161	64	49	0.3043	1.8090	0.7191
4934	136	326	127	119	0.3650	2.3971	0.9338
4935	91	207	84	74	0.3575	2.2747	0.9231

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TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
4936	52	91	26	24	0.2637	1.7500	0.5000
4937	45	72	21	21	0.2917	1.6000	0.4667
4938	44	67	36	35	0.5224	1.5227	0.8182
4939	35	62	25	22	0.3548	1.7714	0.7143
4941	232	282	147	143	0.5071	1.2155	0.6336
4954	1645	1613	1445	1231	0.7632	0.9805	0.8784
4955	1018	935	907	692	0.7401	0.9185	0.8910
4956	448	711	464	452	0.6357	1.5871	1.0357
5311	214	211	185	182	0.8626	0.9860	0.8645
5323	124	67	110	41	0.6119	0.5403	0.8871
5324	5	1	3	0	0.0000	0.2000	0.6000
5325	16	36	12	9	0.2500	2.2500	0.7500
5326	976	884	862	736	0.8326	0.9057	0.8832
5327	59	36	34	18	0.5000	0.6102	0.5763
5331	168	114	101	91	0.7982	0.6786	0.6012
5332	396	219	332	166	0.7580	0.5530	0.8384
5333	59	70	75	24	0.3429	1.1864	1.2712
5334	57	49	32	13	0.2653	0.8596	0.5614
5335	29	45	9	4	0.0889	1.5517	0.3103
5336	31	98	50	26	0.2653	3.1613	1.6129
5337	21	30	6	2	0.0667	1.4286	0.2857
5341	109	75	82	68	0.9067	0.6881	0.7523
5342	708	705	671	625	0.8865	0.9958	0.9477
5343	541	632	447	406	0.6424	1.1682	0.8262
5345	710	557	70	58	0.1041	0.7845	0.0986
5346	17	18	11	8	0.4444	1.0588	0.6471
5501	140	175	84	74	0.4229	1.2500	0.6000
5503	33	104	42	41	0.3942	3.1515	1.2727
5601	46	35	47	26	0.7429	0.7609	1.0217
5633	47	47	44	44	0.9362	1.0000	0.9362
5635	79	236	84	82	0.3475	2.9873	1.0633
5642	30	50	29	25	0.5000	1.6667	0.9667
5644	59	114	37	35	0.3070	1.9322	0.6271
5707	47	131	31	29	0.2214	2.7872	0.6596
5708	45	147	39	36	0.2449	3.2667	0.8667
5710	113	338	119	116	0.3432	2.9912	1.0531
5804	0	0	0	0	UNDEF	UNDEF	UNDEF
5805	135	311	120	119	0.3826	2.3037	0.8889
5907	143	516	209	205	0.3973	3.6084	1.4615
5908	53	113	37	36	0.3186	2.1321	0.6981
5915	119	312	92	91	0.2917	2.6218	0.7731
5931	64	48	45	39	0.8125	0.7500	0.7031
5932	52	46	45	36	0.7826	0.8846	0.8654
6010	60	169	77	75	0.4438	2.8167	1.2833
6021	64	73	20	15	0.2055	1.1406	0.3125
6102	63	139	56	53	0.3813	2.2063	0.8889
6104	139	131	77	71	0.5420	0.9424	0.5540

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TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
6105	64	201	72	70	0.3483	3.1406	1.1250
6313	633	1075	612	594	0.5526	1.6983	0.9668
6401	53	117	45	36	0.3077	2.2075	0.8491
6402	116	405	63	24	0.0593	3.4914	0.5431
6409	28	52	28	7	0.1346	1.8571	1.0000
6412	23	200	18	9	0.0450	8.6957	0.7826
6414	111	274	112	75	0.2737	2.4685	1.0090
6415	421	490	336	204	0.4163	1.1639	0.7981
6416	404	626	371	265	0.4233	1.5495	0.9183
6417	23	51	18	8	0.1569	2.2174	0.7826
6418	338	791	299	181	0.2288	2.3402	0.8846
6419	378	461	317	179	0.3883	1.2196	0.8386
6420	172	116	158	70	0.6034	0.6744	0.9186
6421	148	212	142	98	0.4623	1.4324	0.9595
6422	197	309	128	70	0.2265	1.5685	0.6497
6423	46	35	37	17	0.4857	0.7609	0.8043
6424	34	32	36	15	0.4688	0.9412	1.0588
6426	56	13	43	10	0.7692	0.2321	0.7679
6427	5	4	3	0	0.0000	0.8000	0.6000
6428	3	1	4	0	0.0000	0.3333	1.3333
6429	6	23	6	3	0.1304	3.8333	1.0000
6522	30	37	22	8	0.2162	1.2333	0.7333
6526	96	197	87	63	0.3198	2.0521	0.9063
6527	46	83	27	20	0.2410	1.8043	0.5870
6529	122	205	112	68	0.3317	1.6803	0.9180
6533	11	57	5	2	0.0351	5.1818	0.4545
6534	107	190	102	82	0.4316	1.7757	0.9533
6555	106	122	64	55	0.4508	1.1509	0.6038
6569	91	107	77	68	0.6355	1.1758	0.8462
6571	43	50	36	33	0.6600	1.1628	0.8372
6582	269	648	245	161	0.2485	2.4089	0.9108
6583	30	131	63	45	0.3435	4.3667	2.1000
6584	19	8	10	6	0.7500	0.4211	0.5263
6585	99	226	94	71	0.3142	2.2828	0.9495
6586	290	726	294	229	0.3154	2.5034	1.0138
6587	133	24	27	14	0.5833	0.1805	0.2030
6602	62	49	40	20	0.4082	0.7903	0.6452
6603	30	61	27	20	0.3279	2.0333	0.9000
6605	300	498	243	142	0.2851	1.6600	0.8100
6606	201	374	165	89	0.2380	1.8607	0.8209
6607	155	229	116	82	0.3581	1.4774	0.7484
6608	156	140	90	38	0.2714	0.8974	0.5769
6609	350	555	277	185	0.3333	1.5857	0.7914
6611	470	832	377	251	0.3017	1.7702	0.8021
6612	376	643	292	195	0.3033	1.7101	0.7766
6613	86	169	69	38	0.2249	1.9651	0.8023
6614	43	79	34	29	0.3671	1.8372	0.7907

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TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
6615	46	132	53	47	0.3561	2.8696	1.1522
6618	18	28	16	9	0.3214	1.5556	0.8889
6619	31	68	25	22	0.3235	2.1935	0.8065
6620	19	4	13	3	0.7500	0.2105	0.6842
6621	51	62	44	37	0.5968	1.2157	0.8627
6623	3	19	2	2	0.1053	6.3333	0.6667
6624	1	19	0	0	0.0000	19.0000	0.0000
6625	88	79	51	26	0.3291	0.8977	0.5795
6626	3	12	1	0	0.0000	4.0000	0.3333
6628	40	41	31	25	0.6098	1.0250	0.7750
6629	77	189	71	46	0.2434	2.4545	0.9221
6633	8	57	21	11	0.1930	7.1250	2.6250
6634	113	190	103	78	0.4105	1.6814	0.9115
6635	57	90	50	31	0.3444	1.5789	0.8772
6638	17	22	13	11	0.5000	1.2941	0.7647
6639	126	210	94	77	0.3667	1.6667	0.7460
6640	98	100	60	11	0.1100	1.0204	0.6122
6641	106	149	85	69	0.4631	1.4057	0.8019
6643	65	96	32	8	0.0833	1.4769	0.4923
6645	38	42	23	17	0.4048	1.1053	0.6053
6646	33	50	26	17	0.3400	1.5152	0.7879
6647	45	73	39	36	0.4932	1.6222	0.8667
6648	40	60	33	32	0.5333	1.5000	0.8250
6649	42	47	29	20	0.4255	1.1190	0.6905
6650	35	12	14	10	0.8333	0.3429	0.4000
6651	39	95	24	18	0.1895	2.4359	0.6154
6652	180	356	200	133	0.3736	1.9778	1.1111
6653	176	157	121	77	0.4904	0.8920	0.6875
6654	22	60	21	18	0.3000	2.7273	0.9545
6656	66	47	59	29	0.6170	0.7121	0.8939
6658	57	29	39	17	0.5862	0.5088	0.6842
6659	87	123	71	47	0.3821	1.4138	0.8161
6660	24	19	9	9	0.4737	0.7917	0.3750
6662	40	86	24	18	0.2093	2.1500	0.6000
6663	66	85	61	38	0.4471	1.2879	0.9242
6664	52	135	52	45	0.3333	2.5962	1.0000
6665	9	62	9	6	0.0968	6.8889	1.0000
6668	239	367	207	190	0.5177	1.5356	0.8661
6669	23	15	17	8	0.5333	0.6522	0.7391
6670	4	3	9	1	0.3333	0.7500	2.2500
6671	24	37	19	15	0.4054	1.5417	0.7917
6672	76	223	86	70	0.3139	2.9342	1.1316
6673	509	713	431	356	0.4993	1.4008	0.8468
6674	44	50	32	26	0.5200	1.1364	0.7273
6676	14	41	21	19	0.4634	2.9286	1.5000
6677	21	23	18	12	0.5217	1.0952	0.8571
6679	16	25	14	14	0.5600	1.5625	0.8750

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
6680	20	26	19	11	0.4231	1.3000	0.9500
6681	16	82	29	20	0.2439	5.1250	1.8125
6682	49	31	14	12	0.3871	0.6327	0.2857
6684	48	48	32	19	0.3958	1.0000	0.6667
6686	214	227	169	122	0.5374	1.0607	0.7897
6688	72	43	57	31	0.7209	0.5972	0.7917
6691	59	35	20	12	0.3429	0.5932	0.3390
6692	136	213	140	103	0.4836	1.5662	1.0294
6693	0	5	0	0	0.0000	UNDEF	UNDEF
6694	0	10	1	1	0.1000	UNDEF	UNDEF
6696	15	47	16	14	0.2979	3.1333	1.0667
6697	15	42	10	10	0.2381	2.8000	0.6667
6801	129	434	105	61	0.1406	3.3643	0.8140
6802	377	560	266	188	0.3357	1.4854	0.7056
6803	63	98	37	19	0.1939	1.5556	0.5873
6804	230	477	163	125	0.2621	2.0739	0.7087
6806	53	190	44	29	0.1526	3.5849	0.8302
6901	202	569	152	137	0.2408	2.8168	0.7525
6902	401	682	382	319	0.4677	1.7007	0.9526
7002	0	4	0	0	0.0000	UNDEF	UNDEF
7006	0	7	0	0	0.0000	UNDEF	UNDEF
7011	0	4	0	0	0.0000	UNDEF	UNDEF
7022	492	637	425	350	0.5495	1.2947	0.8638
7105	195	324	106	60	0.1852	1.6615	0.5436
7106	26	31	11	4	0.1290	1.1923	0.4231
7107	2	3	0	0	0.0000	1.5000	0.0000
7109	1	0	0	0	UNDEF	0.0000	0.0000
7112	3	31	8	3	0.0968	10.3333	2.6667
7114	26	85	23	7	0.0824	3.2692	0.8846
7117	0	0	1	0	UNDEF	UNDEF	UNDEF
7128	2	0	0	0	UNDEF	0.0000	0.0000
7129	40	47	35	20	0.4255	1.1750	0.8750
7131	84	5	38	4	0.8000	0.0595	0.4524
7133	35	134	30	22	0.1642	3.8286	0.8571
7135	5	26	3	1	0.0385	5.2000	0.6000
7136	211	491	170	116	0.2363	2.3270	0.8057
7137	76	63	39	5	0.0794	0.8289	0.5132
7144	113	182	90	46	0.2527	1.6106	0.7965
7166	93	66	96	15	0.2273	0.7097	1.0323
7171	0	0	1	0	UNDEF	UNDEF	UNDEF
7173	89	178	76	53	0.2978	2.0000	0.8539
7174	92	202	89	78	0.3861	2.1957	0.9674
7175	6	36	6	2	0.0556	6.0000	1.0000
7181	366	739	375	281	0.3802	2.0191	1.0246
7182	192	560	182	132	0.2357	2.9167	0.9479
7184	69	24	47	13	0.5417	0.3478	0.6812
7197	293	204	221	134	0.6569	0.6962	0.7543

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
7212	516	766	514	333	0.4347	1.4845	0.9961
7222	93	468	89	46	0.0983	5.0323	0.9570
7223	76	62	47	17	0.2742	0.8158	0.6184
7225	233	248	214	205	0.8266	1.0644	0.9185
7232	186	8	39	1	0.1250	0.0430	0.2097
7352	50	27	28	14	0.5185	0.5400	0.5600
7412	427	389	346	333	0.8560	0.9110	0.8103
7414	141	242	99	62	0.2562	1.7163	0.7021
7416	0	17	22	6	0.3529	UNDEF	UNDEF
7418	0	13	4	1	0.0769	UNDEF	UNDEF
7514	5	6	0	0	0.0000	1.2000	0.0000
7523	19	32	4	2	0.0625	1.6842	0.2105
7601	40	28	22	6	0.2143	0.7000	0.5500
7602	118	6	35	3	0.5000	0.0508	0.2966
7603	36	82	15	8	0.0976	2.2778	0.4167
7604	21	6	8	1	0.1667	0.2857	0.3810
7606	90	15	33	2	0.1333	0.1667	0.3667
7607	130	20	39	14	0.7000	0.1538	0.3000
7608	137	18	34	10	0.5556	0.1314	0.2482
7609	96	59	28	9	0.1525	0.6146	0.2917
7815	652	693	640	594	0.8571	1.0629	0.9816
7821	1035	1297	1062	969	0.7471	1.2531	1.0261
7825	329	422	272	191	0.4526	1.2827	0.8267
7826	197	282	150	95	0.3369	1.4315	0.7614
7831	272	384	284	278	0.7240	1.4118	1.0441
7841	201	64	77	51	0.7969	0.3184	0.3831
7851	144	401	126	118	0.2943	2.7847	0.8750
7861	494	509	422	374	0.7348	1.0304	0.8543
7871	224	319	242	228	0.7147	1.4241	1.0804
7872	481	542	376	359	0.6624	1.1268	0.7817
7873	194	162	175	148	0.9136	0.8351	0.9021
7881	35	57	28	16	0.2807	1.6286	0.8000
7918	2	11	3	1	0.0909	5.5000	1.5000
7919	16	34	13	6	0.1765	2.1250	0.8125
7921	23	52	24	14	0.2692	2.2609	1.0435
7922	16	19	10	6	0.3158	1.1875	0.6250
7923	13	21	9	3	0.1429	1.6154	0.6923
7932	0	11	0	0	0.0000	UNDEF	UNDEF
7934	6	102	7	6	0.0588	17.0000	1.1667
7935	2	1	0	0	0.0000	0.5000	0.0000
7936	3	20	2	1	0.0500	6.6667	0.6667
7953	96	147	82	72	0.4898	1.5313	0.8542
7954	35	67	31	26	0.3881	1.9143	0.8857
7955	62	99	53	45	0.4545	1.5968	0.8548
7958	295	302	257	197	0.6523	1.0237	0.8712
7959	84	100	80	49	0.4900	1.1905	0.9524
7964	57	104	53	46	0.4423	1.8246	0.9298

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
7967	58	112	45	35	0.3125	1.9310	0.7759
7969	180	186	141	104	0.5591	1.0333	0.7833
7971	2	0	2	0	UNDEF	0.0000	1.0000
7972	6	0	36	0	UNDEF	0.0000	6.0000
7974	2	0	13	0	UNDEF	0.0000	6.5000
7975	33	70	32	23	0.3286	2.1212	0.9697
7976	18	56	19	13	0.2321	3.1111	1.0556
7977	0	7	0	0	0.0000	UNDEF	UNDEF
7978	0	7	0	0	0.0000	UNDEF	UNDEF
7984	78	121	80	60	0.4959	1.5513	1.0256
7988	44	95	38	32	0.3368	2.1591	0.8636
7989	57	70	47	29	0.4143	1.2281	0.8246
7991	39	67	32	18	0.2687	1.7179	0.8205
7992	46	74	42	32	0.4324	1.6087	0.9130
8011	383	893	276	236	0.2643	2.3316	0.7206
8126	122	55	28	16	0.2909	0.4508	0.2295
8133	244	257	131	114	0.4436	1.0533	0.5369
8136	0	8	0	0	0.0000	UNDEF	UNDEF
8143	72	133	30	27	0.2030	1.8472	0.4167
8144	37	40	33	15	0.3750	1.0811	0.8919
8146	9	11	1	1	0.0909	1.2222	0.1111
8148	66	49	33	23	0.4694	0.7424	0.5000
8149	0	8	0	0	0.0000	UNDEF	UNDEF
8192	157	97	61	52	0.5361	0.6178	0.3885
8202	41	16	37	5	0.3125	0.3902	0.9024
8211	134	209	112	64	0.3062	1.5597	0.8358
8215	611	607	543	520	0.8567	0.9935	0.8887
8216	266	370	219	208	0.5622	1.3910	0.8233
8225	71	60	64	37	0.6167	0.8451	0.9014
8226	281	194	214	149	0.7680	0.6904	0.7616
8241	267	455	261	147	0.3231	1.7041	0.9775
8243	78	111	76	62	0.5586	1.4231	0.9744
8245	33	66	31	24	0.3636	2.0000	0.9394
8250	56	73	57	56	0.7671	1.3036	1.0179
8251	1120	1164	1018	990	0.8505	1.0393	0.9089
8252	137	131	111	99	0.7557	0.9562	0.8102
8258	123	321	82	51	0.1589	2.6098	0.6667
8261	148	222	110	104	0.4685	1.5000	0.7432
8262	54	22	44	19	0.8636	0.4074	0.8148
8263	395	461	410	346	0.7505	1.1671	1.0380
8264	74	65	70	51	0.7846	0.8784	0.9459
8265	195	310	178	165	0.5323	1.5897	0.9128
8267	1	21	3	3	0.1429	21.0000	3.0000
8269	40	93	42	19	0.2043	2.3250	1.0500
8271	444	519	422	385	0.7418	1.1689	0.9505
8273	95	113	76	56	0.4956	1.1895	0.8000
8274	86	110	79	53	0.4818	1.2791	0.9186

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
8275	134	113	124	69	0.6106	0.8433	0.9254
8276	5	1	10	0	0.0000	0.2000	2.0000
8278	145	216	140	103	0.4769	1.4897	0.9655
8279	22	9	18	9	1.0000	0.4091	0.8182
8284	310	286	241	161	0.5629	0.9226	0.7774
8288	85	114	75	60	0.5263	1.3412	0.8824
8289	161	356	136	98	0.2753	2.2112	0.8447
8294	135	144	119	96	0.6667	1.0667	0.8815
8295	263	454	265	181	0.3987	1.7262	1.0076
8300	263	23	130	5	0.2174	0.0875	0.4943
8301	205	24	37	0	0.0000	0.1171	0.1805
8302	201	532	162	60	0.1128	2.6468	0.8060
8303	441	326	378	170	0.5215	0.7392	0.8571
8304	339	682	331	265	0.3886	2.0118	0.9764
8305	1073	2309	1035	886	0.3837	2.1519	0.9646
8306	345	502	313	216	0.4303	1.4551	0.9072
8307	106	162	105	69	0.4259	1.5283	0.9906
8308	173	303	119	33	0.1089	1.7514	0.6879
8310	321	324	322	136	0.4198	1.0093	1.0031
8317	325	364	303	179	0.4918	1.1200	0.9323
8318	258	892	222	120	0.1345	3.4574	0.8605
8319	2412	5100	2243	1751	0.3433	2.1144	0.9299
8323	80	2344	46	32	0.0137	29.3000	0.5750
8326	51	1011	41	15	0.0148	19.8235	0.8039
8327	2448	7625	2879	2385	0.3128	3.1148	1.1761
8331	2834	4700	2624	2210	0.4702	1.6584	0.9259
8332	1055	1966	1039	932	0.4741	1.8635	0.9848
8333	105	85	84	39	0.4588	0.8095	0.8000
8342	3034	2732	2555	1873	0.6856	0.9005	0.8421
8344	1	398	2	0	0.0000	398.0000	2.0000
8345	5020	6292	4591	3520	0.5594	1.2534	0.9145
8346	2144	3356	1900	1644	0.4899	1.5653	0.8862
8351	1327	2753	1119	735	0.2670	2.0746	0.8433
8357	445	1135	446	320	0.2819	2.5506	1.0022
8374	62	82	45	28	0.3415	1.3226	0.7258
8375	1321	1981	1226	1044	0.5270	1.4996	0.9281
8376	982	842	916	728	0.8646	0.8574	0.9328
8377	2136	3890	1914	1513	0.3889	1.8212	0.8961
8379	578	1269	514	417	0.3286	2.1955	0.8893
8380	275	521	247	176	0.3378	1.8945	0.8982
8381	96	548	74	27	0.0493	5.7083	0.7708
8391	129	94	59	24	0.2553	0.7287	0.4574
8402	368	337	334	315	0.9347	0.9158	0.9076
8404	4017	9440	3613	3433	0.3637	2.3500	0.8994
8406	563	533	512	485	0.9099	0.9467	0.9094
8407	74	82	83	78	0.9512	1.1081	1.1216
8408	107	118	114	113	0.9576	1.1028	1.0654

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
8409	120	80	97	75	0.9375	0.6667	0.8083
8416	73	72	64	63	0.8750	0.9863	0.8767
8425	1390	1145	1085	1075	0.9389	0.8237	0.7806
8432	620	598	565	544	0.9097	0.9645	0.9113
8433	56	54	52	49	0.9074	0.9643	0.9286
8444	7	46	42	36	0.7826	6.5714	6.0000
8445	72	62	72	57	0.9194	0.8611	1.0000
8446	124	81	76	75	0.9259	0.6532	0.6129
8451	281	228	217	169	0.7412	0.8114	0.7722
8452	635	648	618	595	0.9182	1.0205	0.9732
8454	40	42	41	41	0.9762	1.0500	1.0250
8463	286	211	204	203	0.9621	0.7378	0.7133
8466	196	218	215	211	0.9679	1.1122	1.0969
8472	43	38	36	36	0.9474	0.8837	0.8372
8477	113	119	95	91	0.7647	1.0531	0.8407
8478	270	256	254	245	0.9570	0.9481	0.9407
8482	929	758	746	726	0.9578	0.8159	0.8030
8483	964	832	805	787	0.9459	0.8631	0.8351
8485	371	324	320	309	0.9537	0.8733	0.8625
8486	86	69	67	66	0.9565	0.8023	0.7791
8489	128	131	123	122	0.9313	1.0234	0.9609
8492	166	149	150	140	0.9396	0.8976	0.9036
8493	139	138	131	126	0.9130	0.9928	0.9424
8495	53	57	57	54	0.9474	1.0755	1.0755
8496	18	24	22	22	0.9167	1.3333	1.2222
8501	584	488	442	421	0.8627	0.8356	0.7568
8503	43	36	36	36	1.0000	0.8372	0.8372
8505	38	36	35	34	0.9444	0.9474	0.9211
8506	1147	989	942	933	0.9434	0.8622	0.8213
8541	127	89	89	85	0.9551	0.7008	0.7008
8703	285	280	238	221	0.7893	0.9825	0.8351
8705	12	6	3	1	0.1667	0.5000	0.2500
8707	404	728	403	338	0.4643	1.8020	0.9975
8732	101	88	85	85	0.9659	0.8713	0.8416
8752	291	300	289	274	0.9133	1.0309	0.9931
8753	193	174	171	167	0.9598	0.9016	0.8860
8765	8	6	6	4	0.6667	0.7500	0.7500
9101	0	1	0	0	0.0000	UNDEF	UNDEF
9107	18	32	13	12	0.3750	1.7778	0.7222
9108	25	34	17	14	0.4118	1.3600	0.6800
9109	111	124	92	85	0.6855	1.1171	0.8288
9110	5	1	4	0	0.0000	0.2000	0.8000
9111	0	3	0	0	0.0000	UNDEF	UNDEF
9112	1	0	0	0	UNDEF	0.0000	0.0000
9113	4	0	0	0	UNDEF	0.0000	0.0000
9115	9	10	6	1	0.1000	1.1111	0.6667
9116	62	172	26	17	0.0988	2.7742	0.4194

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
9117	4	0	3	0	UNDEF	0.0000	0.7500
9118	479	415	316	229	0.5518	0.8664	0.6597
9120	53	12	5	1	0.0833	0.2264	0.0943
9121	140	184	65	25	0.1359	1.3143	0.4643
9122	48	43	27	9	0.2093	0.8958	0.5625
9123	96	267	108	84	0.3146	2.7813	1.1250
9124	565	513	394	333	0.6491	0.9080	0.6973
9125	223	315	174	153	0.4857	1.4126	0.7803
9127	47	81	74	17	0.2099	1.7234	1.5745
9128	110	68	67	17	0.2500	0.6182	0.6091
9129	102	100	85	54	0.5400	0.9804	0.8333
9130	17	6	4	1	0.1667	0.3529	0.2353
9132	36	11	7	1	0.0909	0.3056	0.1944
9134	0	84	28	18	0.2143	UNDEF	UNDEF
9135	0	20	3	0	0.0000	UNDEF	UNDEF
9140	116	219	151	115	0.5251	1.8879	1.3017
9141	219	220	166	148	0.6727	1.0046	0.7580
9142	266	381	324	304	0.7979	1.4323	1.2180
9143	129	94	91	80	0.8511	0.7287	0.7054
9144	69	30	35	12	0.4000	0.4348	0.5072
9145	304	503	287	258	0.5129	1.6546	0.9441
9146	47	138	52	42	0.3043	2.9362	1.1064
9147	126	132	80	72	0.5455	1.0476	0.6349
9148	108	116	98	70	0.6034	1.0741	0.9074
9151	84	557	120	104	0.1867	6.6310	1.4286
9152	40	57	31	16	0.2807	1.4250	0.7750
9153	27	23	23	10	0.4348	0.8519	0.8519
9154	130	27	179	12	0.4444	0.2077	1.3769
9155	63	22	23	13	0.5909	0.3492	0.3651
9156	10	1	2	0	0.0000	0.1000	0.2000
9157	18	1	4	0	0.0000	0.0556	0.2222
9159	54	0	25	0	UNDEF	0.0000	0.4630
9165	423	588	383	310	0.5272	1.3901	0.9054
9169	121	75	101	28	0.3733	0.6198	0.8347
9180	0	0	1	0	UNDEF	UNDEF	UNDEF
9181	125	167	17	16	0.0958	1.3360	0.1360
9182	145	46	47	42	0.9130	0.3172	0.3241
9183	173	347	156	148	0.4265	2.0058	0.9017
9184	91	48	50	21	0.4375	0.5275	0.5495
9185	356	389	283	224	0.5758	1.0927	0.7949
9186	107	42	42	35	0.8333	0.3925	0.3925
9187	1	25	14	13	0.5200	25.0000	14.0000
9190	235	380	88	82	0.2158	1.6170	0.3745
9197	2	10	3	3	0.3000	5.0000	1.5000
9198	2	5	3	3	0.5000	2.5000	1.5000
9201	300	466	379	368	0.7897	1.5533	1.2633
9202	3	2	2	2	1.0000	0.6667	0.6667

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
9203	121	184	176	163	0.8859	1.5207	1.4545
9204	25	49	29	28	0.5714	1.9600	1.1600
9207	2	6	2	2	0.3333	3.0000	1.0000
9208	2	6	3	3	0.5000	3.0000	1.5000
9209	26	32	28	28	0.8750	1.2308	1.0769
9211	35	92	60	58	0.6304	2.6286	1.7143
9212	38	97	73	70	0.7216	2.5526	1.9211
9213	13	32	9	9	0.2813	2.4615	0.6923
9214	0	2	0	0	0.0000	UNDEF	UNDEF
9215	15	28	23	23	0.8214	1.8667	1.5333
9216	61	110	88	81	0.7364	1.8033	1.4426
9230	181	165	136	130	0.7879	0.9116	0.7514
9231	16	11	11	8	0.7273	0.6875	0.6875
9232	19	8	8	5	0.6250	0.4211	0.4211
9233	37	11	9	6	0.5455	0.2973	0.2432
9234	2	3	2	2	0.6667	1.5000	1.0000
9235	14	7	6	6	0.8571	0.5000	0.4286
9236	30	16	13	12	0.7500	0.5333	0.4333
9237	2	0	0	0	UNDEF	0.0000	0.0000
9240	32	8	8	5	0.6250	0.2500	0.2500
9241	4	0	0	0	UNDEF	0.0000	0.0000
9242	0	4	3	3	0.7500	UNDEF	UNDEF
9243	9	5	1	1	0.2000	0.5556	0.1111
9246	4	0	0	0	UNDEF	0.0000	0.0000
9247	3	17	2	2	0.1176	5.6667	0.6667
9248	4	18	2	2	0.1111	4.5000	0.5000
9249	3	1	4	0	0.0000	0.3333	1.3333
9250	56	146	85	80	0.5479	2.6071	1.5179
9251	72	124	88	82	0.6613	1.7222	1.2222
9252	106	70	88	51	0.7286	0.6604	0.8302
9253	14	12	5	3	0.2500	0.8571	0.3571
9254	24	32	29	26	0.8125	1.3333	1.2083
9255	8	81	14	14	0.1728	10.1250	1.7500
9256	41	28	33	18	0.6429	0.6829	0.8049
9258	40	0	5	0	UNDEF	0.0000	0.1250
9259	9	0	4	0	UNDEF	0.0000	0.4444
9260	50	79	44	21	0.2658	1.5800	0.8800
9261	58	94	64	41	0.4362	1.6207	1.1034
9262	20	27	22	10	0.3704	1.3500	1.1000
9264	2	31	8	5	0.1613	15.5000	4.0000
9265	8	7	3	2	0.2857	0.8750	0.3750
9267	30	27	27	17	0.6296	0.9000	0.9000
9268	124	150	97	58	0.3867	1.2097	0.7823
9269	29	53	22	14	0.2642	1.8276	0.7586
9270	43	87	54	50	0.5747	2.0233	1.2558
9271	58	102	61	58	0.5686	1.7586	1.0517
9272	16	23	14	12	0.5217	1.4375	0.8750

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
9273	19	9	11	4	0.4444	0.4737	0.5789
9274	7	11	9	6	0.5455	1.5714	1.2857
9275	2	37	7	6	0.1622	18.5000	3.5000
9276	4	29	7	4	0.1379	7.2500	1.7500
9277	1	24	7	3	0.1250	24.0000	7.0000
9278	5	27	10	8	0.2963	5.4000	2.0000
9279	60	0	31	0	UNDEF	0.0000	0.5167
9280	85	130	73	65	0.5000	1.5294	0.8588
9281	91	92	98	75	0.8152	1.0110	1.0769
9282	60	74	43	39	0.5270	1.2333	0.7167
9283	31	42	30	30	0.7143	1.3548	0.9677
9284	79	96	77	63	0.6563	1.2152	0.9747
9286	2	0	0	0	UNDEF	0.0000	0.0000
9287	8	8	6	3	0.3750	1.0000	0.7500
9288	1	2	0	0	0.0000	2.0000	0.0000
9290	22	26	21	15	0.5769	1.1818	0.9545
9291	9	14	6	4	0.2857	1.5556	0.6667
9292	7	1	2	0	0.0000	0.1429	0.2857
9293	61	78	59	58	0.7436	1.2787	0.9672
9294	42	58	46	42	0.7241	1.3810	1.0952
9295	34	16	15	1	0.0625	0.4706	0.4412
9296	43	57	33	23	0.4035	1.3256	0.7674
9501	166	836	131	77	0.0921	5.0361	0.7892
9502	17470	29468	14358	12197	0.4139	1.6868	0.8219
9503	16	18	4	1	0.0556	1.1250	0.2500
9504	4	137	11	8	0.0584	34.2500	2.7500
9505	145	306	127	71	0.2320	2.1103	0.8759
9506	305	953	121	62	0.0651	3.1246	0.3967
9507	25	74	2	1	0.0135	2.9600	0.0800
9508	1312	2964	1321	1147	0.3870	2.2591	1.0069
9509	99	128	79	53	0.4141	1.2929	0.7980
9510	26	0	14	0	UNDEF	0.0000	0.5385
9511	228	305	28	14	0.0459	1.3377	0.1228
9512	786	2639	380	330	0.1250	3.3575	0.4835
9513	91	129	19	13	0.1008	1.4176	0.2088
9514	249	424	65	39	0.0920	1.7028	0.2610
9515	138	273	100	89	0.3260	1.9783	0.7246
9516	133	302	82	41	0.1358	2.2707	0.6165
9517	107	0	12	0	UNDEF	0.0000	0.1121
9518	204	375	201	188	0.5013	1.8382	0.9853
9519	142	155	101	39	0.2516	1.0915	0.7113
9521	20	1166	11	7	0.0060	58.3000	0.5500
9522	312	387	212	141	0.3643	1.2404	0.6795
9523	68	66	19	13	0.1970	0.9706	0.2794
9524	27	100	12	12	0.1200	3.7037	0.4444
9526	574	1111	104	67	0.0603	1.9355	0.1812
9527	1034	4527	352	246	0.0543	4.3781	0.3404

TABLE A-1 (continued)

NEC	R	I	A	M	U	I/R	A/R
9528	2	2	0	0	0.0000	1.0000	0.0000
9530	0	3	0	0	0.0000	UNDEF	UNDEF
9533	316	407	84	41	0.1007	1.2880	0.2658
9534	51	59	8	6	0.1017	1.1569	0.1569
9537	73	19	20	10	0.5263	0.2603	0.2740
9539	103	103	44	26	0.2524	1.0000	0.4272
9541	7	108	5	3	0.0278	15.4286	0.7143
9542	234	175	175	131	0.7486	0.7479	0.7479
9543	13	35	19	13	0.3714	2.6923	1.4615
9544	0	16	1	0	0.0000	UNDEF	UNDEF
9545	2871	1649	2366	1312	0.7956	0.5744	0.8241
9548	1449	3484	1311	1220	0.3502	2.4044	0.9048
9554	21	16	15	7	0.4375	0.7619	0.7143
9558	6	105	5	3	0.0286	17.5000	0.8333
9559	80	112	28	20	0.1786	1.4000	0.3500
9561	67	548	42	40	0.0730	8.1791	0.6269
9562	9	13	0	0	0.0000	1.4444	0.0000
9563	16	108	12	11	0.1019	6.7500	0.7500
9566	5	13	4	1	0.0769	2.6000	0.8000
9567	0	0	0	0	UNDEF	UNDEF	UNDEF
9570	29	333	12	11	0.0330	11.4828	0.4138
9571	9	26	0	0	0.0000	2.8889	0.0000
9573	26	0	3	0	UNDEF	0.0000	0.1154
9575	169	246	184	145	0.5894	1.4556	1.0888
9577	13	74	2	1	0.0135	5.6923	0.1538
9579	186	432	190	187	0.4329	2.3226	1.0215
9580	742	418	727	301	0.7201	0.5633	0.9798
9581	128	194	32	31	0.1598	1.5156	0.2500
9583	66	247	19	18	0.0729	3.7424	0.2879
9585	5643	9986	4671	4496	0.4502	1.7696	0.8278
9588	907	6607	373	236	0.0357	7.2845	0.4112
9589	806	1752	625	467	0.2666	2.1737	0.7754
9591	200	434	3	3	0.0069	2.1700	0.0150
9593	2911	4798	1246	757	0.1578	1.6482	0.4280
9597	83	154	65	60	0.3896	1.8554	0.7831
9598	41	37	11	9	0.2432	0.9024	0.2683

TABLE A-2
DISTRIBUTION OF NECS BY INVENTORY SIZE CLASS, 1979-87
(Number and percent of NECs)

Inventory	1979		1980		1981		1982		1983		1984		1985		1986		1987	
0	46	4.5%	36	3.6%	12	1.2%	10	1.0%	7	0.7%	40	3.6%	40	3.5%	48	4.1%	46	3.8%
1-25	196	19.0	197	19.4	175	17.7	165	17.0	191	18.1	210	18.9	248	21.6	228	19.4	231	19.1
26-50	149	14.5	155	15.3	152	15.4	132	13.6	153	14.5	141	12.7	141	12.3	145	12.3	146	12.1
51-100	191	18.6	181	17.9	180	18.2	181	18.6	207	19.6	209	18.8	192	16.7	190	16.2	208	17.2
101-250	214	20.8	217	21.4	228	23.1	227	23.3	220	20.9	226	20.3	229	19.9	252	21.4	254	21.0
251-500	128	12.4	119	11.7	130	13.2	143	14.7	142	13.5	140	12.6	133	11.6	142	12.1	148	12.2
501-1000	62	6.0	67	6.6	64	6.5	70	7.2	87	8.3	92	8.3	109	9.5	107	9.1	107	8.9
1001-2500	31	3.0	29	2.9	33	3.3	30	3.1	31	2.9	37	3.3	37	3.2	44	3.7	48	4.0
2501-5000	7	0.7	10	1.0	9	0.9	10	1.0	10	0.9	10	0.9	14	1.2	13	1.1	14	1.2
5001-10,000	4	0.4	2	0.2	3	0.3	4	0.4	5	0.5	6	0.5	6	0.5	6	0.5	6	0.5
10,001+	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1	1	0.1
Total	1029	100.0	1014	100.0	987	100.0	973	100.0	1054	100.0	1112	100.0	1150	100.0	1176	100.0	1209	100.0

DISTRIBUTION OF NEC INVENTORY BY INVENTORY SIZE CLASS, 1979-87
(Number and percent of NEC holders)

Inventory	1979		1980		1981		1982		1983		1984		1985		1986		1987	
1-25	2,026	1%	2,139	1%	2,089	1%	2,167	1%	2,327	1%	2,383	1%	2,638	1%	2,487	1%	2,510	1%
26-50	5,522	2	5,811	2	5,696	2	5,016	2	5,693	2	5,269	2	5,305	2	5,567	2	5,437	1
51-100	13,935	5	13,151	5	13,094	5	13,161	5	15,301	5	15,440	5	14,220	4	14,152	4	15,709	4
101-250	35,123	14	35,935	14	36,879	14	36,492	13	34,966	12	36,059	11	37,013	11	40,015	11	40,871	11
251-500	44,698	17	41,537	16	46,236	17	51,467	18	49,598	16	49,913	16	46,725	14	50,234	14	52,332	14
501-1000	44,773	17	46,021	18	43,230	16	47,411	17	58,763	20	62,326	19	74,095	22	74,128	20	74,603	20
1001-2500	46,721	18	43,574	17	48,365	18	45,408	16	47,272	16	53,392	17	51,911	15	62,196	17	67,528	18
2501-5000	21,850	9	35,422	14	31,020	12	32,283	12	31,781	11	31,024	10	42,664	12	42,900	12	47,028	12
5001-10,000	23,662	9	13,531	5	19,146	7	26,456	9	33,428	11	40,412	13	43,069	13	45,221	12	45,050	12
10,001+	18,724	7	18,908	7	19,665	7	20,850	7	22,048	7	23,839	7	25,893	8	28,147	8	29,468	8
Total	257,034	100	256,029	100	265,420	100	280,711	100	301,177	100	320,057	100	343,533	100	365,047	100	380,536	100

TABLE A-3
DISTRIBUTION OF NECS BY REQUIREMENTS SIZE CLASS, 1984-87
(Number and percent of NECs)

Requirements	1984		1985		1986		1987	
0	91	7.6%	84	6.8%	104	8.5%	97	7.7%
1-25	295	24.7	318	25.7	272	22.2	286	22.8
26-50	176	14.7	180	14.6	172	14.0	172	13.7
51-100	199	16.7	208	16.8	217	17.7	228	18.1
101-250	221	18.5	220	17.8	229	18.7	240	19.1
251-500	124	10.4	127	10.3	128	10.4	128	10.2
501-1000	56	4.7	60	4.9	65	5.3	65	5.2
1001-2500	25	2.1	30	2.4	32	2.6	32	2.5
2501-5000	7	0.6	7	0.6	6	0.5	6	0.5
5001-10,000	0	0.0	0	0.0	1	0.1	2	0.2
10,001+	1	0.1	1	0.1	1	0.1	1	0.1
Total	1195	100.0	1235	100.0	1227	100.0	1257	100.0

DISTRIBUTION OF NEC REQUIREMENTS BY REQUIREMENTS SIZE CLASS, 1984-87
(Number and percent of requirements)

Requirements	1984		1985		1986		1987	
1-25	3,125	1.5%	3,240	1.4%	2,765	1.2%	2,806	1.2%
26-50	6,459	3.0	6,680	2.9	6,349	2.7	6,399	2.6
51-100	14,522	6.8	15,438	6.8	16,038	6.8	16,572	6.8
101-250	34,863	16.4	34,955	15.3	35,752	15.2	37,924	15.7
251-500	44,199	20.8	45,093	19.7	44,791	19.1	44,973	18.6
501-1000	38,085	17.9	40,205	17.6	44,214	18.0	44,442	17.5
1001-2500	33,066	15.5	40,916	17.9	44,969	19.2	44,524	18.4
2501-5000	23,311	10.9	25,527	11.2	19,946	8.5	18,430	7.6
5001-10,000	0	0.0	0	0.0	5,016	2.1	10,663	4.4
10,001+	15,361	7.2	16,457	7.2	16,875	7.2	17,470	7.2
Total	212,991	100.0	228,511	100.0	234,715	100.0	242,203	100.0

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TABLE A-4
DISTRIBUTION OF U, 1979-87
(Number and percent of NECs)

U	1979		1980		1981		1982		1983		1984		1985		1986		1987	
Undefined	46	4.5%	36	3.6%	12	1.2%	10	1.0%	7	0.7%	123	10.3%	125	10.1%	99	8.1%	94	7.5%
0	55	5.3	69	6.8	56	5.7	41	4.2	114	10.8	116	9.7	101	8.2	102	8.3	110	8.8
0 - .1	79	7.7	74	7.3	82	8.3	75	7.7	79	7.5	72	6.0	85	6.9	95	7.7	98	7.8
.1 - .2	107	10.4	95	9.4	100	10.1	102	10.5	92	8.7	91	7.6	99	8.0	89	7.3	111	8.8
.2 - .3	118	11.5	124	12.2	127	12.9	121	12.4	106	10.1	99	8.3	119	9.6	104	8.5	127	10.1
.3 - .4	108	10.5	127	12.5	114	11.6	135	13.9	129	12.2	149	12.5	125	10.1	138	11.2	150	11.9
.4 - .5	113	11.0	102	10.1	126	12.8	108	11.1	128	12.1	120	10.0	155	12.6	148	12.1	127	10.1
.5 - .6	121	11.8	111	10.9	100	10.1	108	11.1	121	11.5	124	10.4	113	9.1	134	10.9	129	10.3
.6 - .7	89	8.6	86	8.5	93	9.4	94	9.7	91	8.6	99	8.3	100	8.1	118	9.6	111	8.8
.7 - .8	83	8.1	86	8.5	72	7.3	80	8.2	85	8.1	92	7.7	102	8.3	84	6.8	94	7.5
.8 - .9	65	6.3	60	5.9	59	6.0	60	6.2	60	5.7	74	6.2	61	4.9	69	5.6	58	4.6
.9 - 1.0	29	2.8	29	2.9	38	3.9	34	3.5	36	3.4	31	2.6	39	3.2	40	3.3	42	3.3
1.0	16	1.6	15	1.5	8	0.8	5	0.5	6	0.6	5	0.4	11	0.9	7	0.6	6	0.5
Total	1029	100.0	1014	100.0	987	100.0	973	100.0	1054	100.0	1195	100.0	1235	100.0	1227	100.0	1257	100.0

TABLE A-5

DISTRIBUTION OF INVENTORY/REQUIREMENTS
(Number and percent of NECs)

I/R	1984		1985		1986		1987	
Undefined	91	7.6%	84	6.8%	104	8.5%	97	7.7%
0	102	8.5	97	7.9	76	6.2	74	5.9
0-.25	20	1.7	56	4.5	34	2.8	33	2.6
.25-.50	65	5.4	61	4.9	63	5.1	55	4.4
.50-.75	105	8.8	105	8.5	94	7.7	101	8.0
.75-1.00	135	11.3	137	11.1	159	13.0	133	10.6
1.00-1.25	133	11.1	124	10.0	113	9.2	143	11.4
1.25-1.50	119	10.0	117	9.5	131	10.7	133	10.6
1.50-1.75	111	9.3	91	7.4	96	7.8	122	9.7
1.75-2.00	84	7.0	75	6.1	84	6.8	72	5.7
2.0-3.0	127	10.6	147	11.9	155	12.6	57	12.5
3.0-4.0	47	3.9	53	4.3	37	3.0	42	3.3
4.0-5.0	9	0.8	18	1.5	13	1.1	16	1.3
5.0+	47	3.9	70	5.7	68	5.5	79	6.3
Total	1,195	100.0	1,235	100.0	1,227	100.0	1,257	100.0

For those NECs with requirements > 0:

	1984		1985		1986		1987	
0	102	9.2	97	8.4	76	6.8	74	6.4
0-1.0	312	28.3	344	29.9	335	29.8	310	26.7
1.0+	690	62.5	710	61.7	712	63.4	776	66.9
Total	1,104	100.0	1,151	100.0	1,123	100.0	1,160	100.0

TABLE A-6

DISTRIBUTION OF ASSIGNMENTS/REQUIREMENTS
(Number and percent of NECs)

A/R	1984		1985		1986		1987	
Undefined	91	7.6%	84	6.8%	104	8.5%	97	7.7%
0	117	9.8	106	8.6	68	5.5	64	5.1
0-.25	88	7.4	103	8.3	101	8.2	95	7.6
.25-.50	129	10.8	143	11.6	130	10.6	140	11.1
.50-.75	205	17.2	200	16.2	224	18.3	224	17.8
.75-1.00	283	23.7	279	22.6	328	26.7	391	31.1
1.00-1.25	144	12.1	154	12.5	157	12.8	137	10.9
1.25-1.50	63	5.3	55	4.5	49	4.0	48	3.8
1.50-1.75	20	1.7	32	2.6	13	1.1	13	1.0
1.75-2.00	2	0.2	20	1.6	15	1.2	6	0.5
2.00+	53	4.4	59	4.8	38	3.1	42	3.3
Total	1,195	100.0	1,235	100.0	1,227	100.0	1,257	100.0

For those NECs with requirements > 0:

	1984		1985		1986		1987	
0	117	10.6	106	9.2	68	6.1	64	5.5
0-1.0	685	62.0	705	61.3	756	67.3	826	71.2
1.0+	302	27.4	340	29.5	299	26.6	270	23.3
Total	1,104	100.0	1,151	100.0	1,123	100.0	1,160	100.0